This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

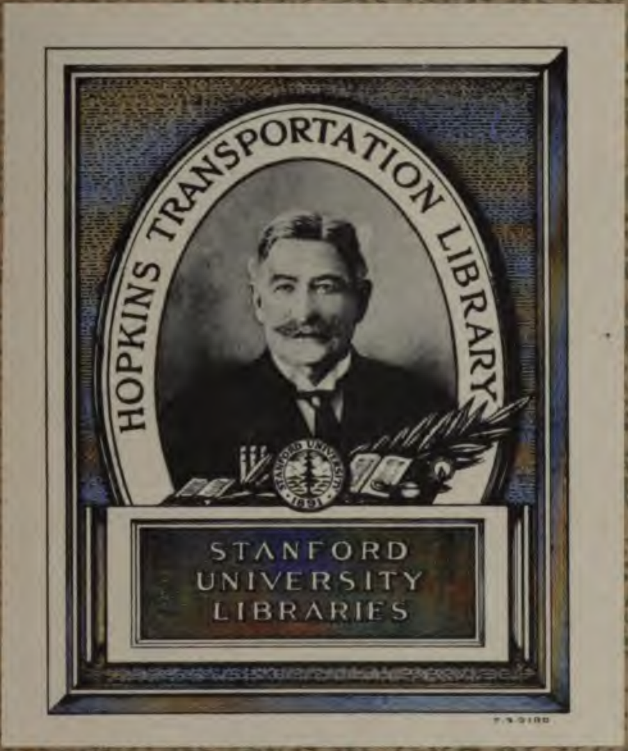
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

THE COSMOPOLITAN RAILWAY

William Gilpin

8002



HOPKINS TRANSPORTATION LIBRARY
STANFORD
UNIVERSITY
LIBRARIES

Henry W Teeple
80 6th St
Oakland
Cal

Harry W Teeple

80 - 6th St

Oakland

Cal

THE

COSMOPOLITAN RAILWAY

COMPACTING AND FUSING TOGETHER ALL THE WORLD'S CONTINENTS

BY

WILLIAM GILPIN

LATE GOVERNOR OF COLORADO; AUTHOR OF THE CENTRAL GOLD REGION, MISSION OF
THE NORTH AMERICAN PEOPLE, ETC., ETC.

SAN FRANCISCO
THE HISTORY COMPANY, PUBLISHERS
1890

HE 2701
G 489

Copyright, 1890
BY THE HISTORY COMPANY

PREFACE

My studies of the configuration and climates of the North American continent began by personal observation over half a century ago, when the western part was a primeval wilderness wholly unknown to civilization.

The idea forced itself more and more upon my mind of a widely extended railway system. This system should not only traverse the continent from sea to sea, but should continue its course north and west across the strait of Bering; and across Siberia, to connect with the railways of Europe, and of all the world. The more I investigated, the more practicable the plan appeared, until the certainty of its consummation at no far distant day became with me a settled conviction.

Since the time when *first* these ideas began to occupy my mind, many thousands of miles have been added to the world's system of railways; many thousands of leagues have been reclaimed from the wilderness and added to the domain of civilization. Already an Asiatic railway across Siberia is approaching actuality; while the several systems in America are drawing nearer and nearer toward the narrow strait which separates the oldest continent known to history from the so-called newest continent.

The purpose of this book is to throw a stronger light upon an obscure region, and invest with fresh interest a fascinating subject. In the consummation of the grand scheme of a Cosmopolitan Railway will be forged another link in the great chain of progress, which is slowly, but surely, uniting in one race, one language, and one brotherhood all the peoples of the earth.

It will unfold to man a sea of new possibilities, such as from the beginning nature has ever been revealing, as the human intellect was prepared to understand them. For, although nature abounds in resources, and is lavish of her gifts, it is for man, civilized man, to utilize and draw from them wealth, to economize, and so multiply even these abundant resources.

Long lay hidden the metal of the mountains until man should come and make it of use; long bloomed the wilderness, filling the air with fragrance breathed only by wild beasts and reptiles; long, very long, the line of beasts themselves, which came and departed with no higher end or aim than to devour one another, and to roam through the forests, as yet untrod by men or gods. It was reserved for man alone, for the elevation of mind and the immortality of intelligence, thus to transmute the cinders and waste material of this world into the fine gold which ministers to human culture. Science is divine; economy is science revealed, rightly understood, and utilized.

The North American continent is stupendous in area, and its physical structure is perfect in the economy of its arrangement. It is in these features that we find so marked a contrast in all the continents which make up the subdivisions of the world.

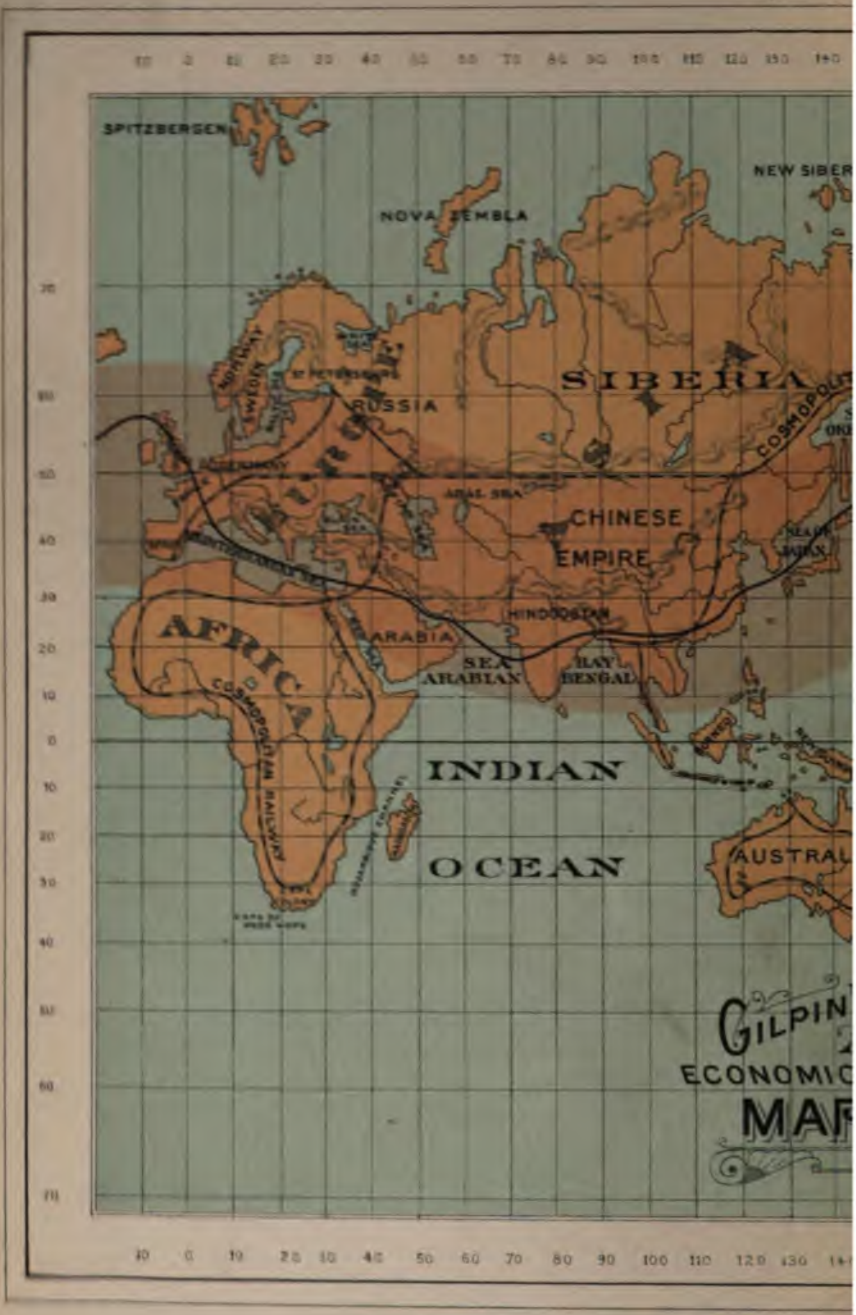
It has ever been my purpose to elucidate this striking contrast between the old and the new continents in regard to the development of man, and the gradual rise to a higher civilization and a superior order of being consequent in part to the details of continental configuration. The most remarkable of these differences is in the concave structure of America in contrast with the convex structure of the mountain systems, the river systems, and the valley systems of the older world. These differences of structure have much to do with the climatology, the tendency to universal fusion of populations, and the compact order which is the result, and explain the different and various growth, quality, and celerity of progress of the struggle for civilization.

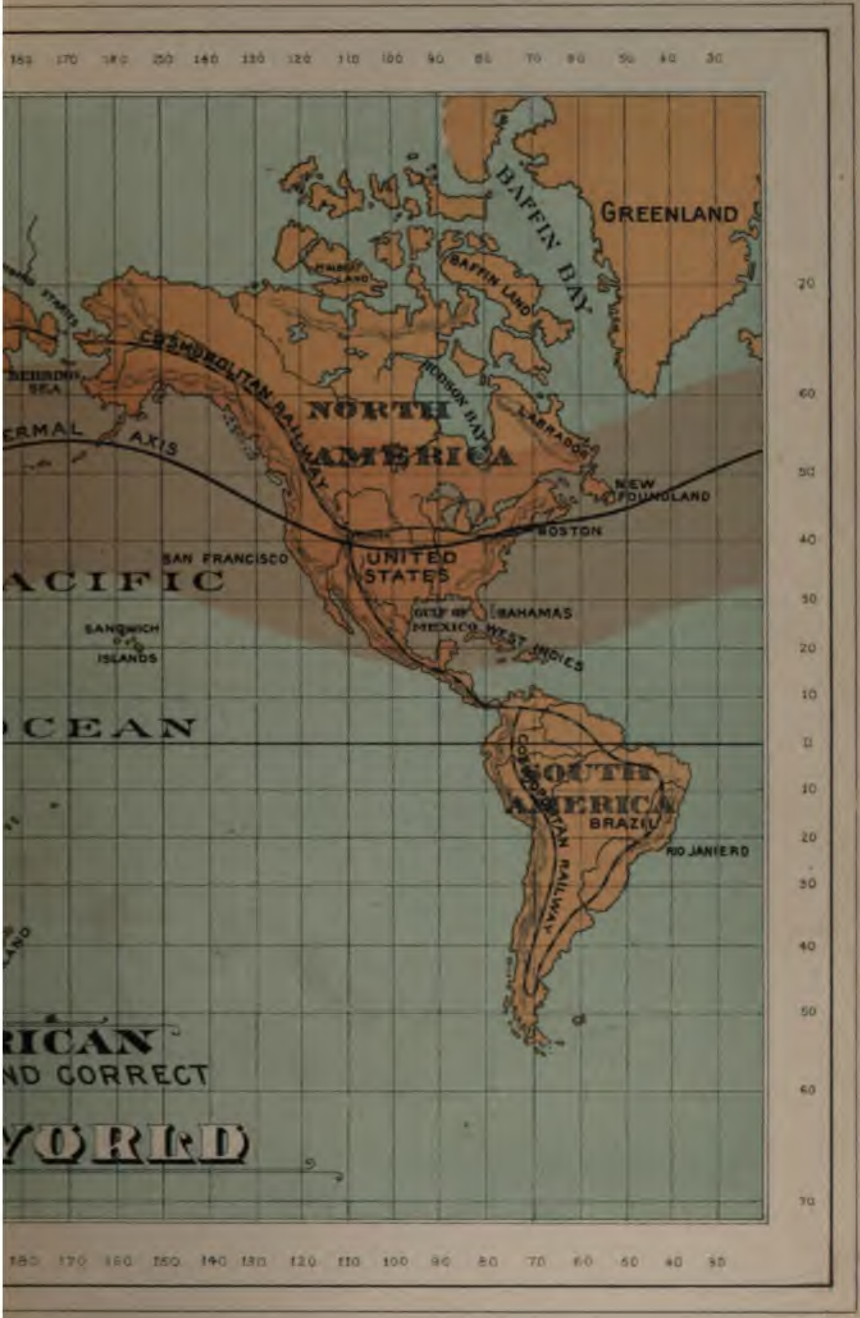
It was first so thought of our continent, from the magnitude of its area, from its sublime economy of structure, and from its being in form a compact island set out in the circumambient oceans. It is this peculiarity of structure, together with a partial isolation, and the exemption from the entanglements and barriers which characterize the older continents, that have made possible and easy the rapid strides in the general development of humanity to a higher and more enduring condition of refinement, and the evolution of institutions propitious to it. Emancipation by machines, and fusion by railroads, reënforced by a propitious climatology, are here united to urge on our people in the channels of uninterrupted progress.

CONTENTS.

PAGE

CHAPTER I. THE PHYSICAL ASPECT 1
II. THE POLITICAL ASPECT 31
III. THE SOCIAL ASPECT 48
IV. THE FINANCIAL QUESTION 62
V. HISTORY OF RAILWAY CONSTRUCTION 82
VI. THE RAILWAY AS A FACTOR OF PROGRESS 108
VII. RACE PROBLEMS AND PROCLIVITIES 125
VIII. RETROSPECTIVE 166
IX. PROSPECTIVE 197
X. EMIGRATION AND IMMIGRATION 249
XI. THE NEW CIVILIZATION 284
XII. APPENDIX 301


10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70
SPITZBERGEN
NOVA ZEMBLA
NEW SIBER
NORWAY
SWEDEN
ST PETERSBURG
RUSSIA
SIBERIA
COSMOPOLI
ARAL SEA
CHINESE
EMPIRE
SEA OF
JAPAN
MEDITERRANEAN SEA
RED SEA
HINDOOSTAN
ARABIA
SEA
ARABIAN
BAY
BENGAL
AFRICA
COSMOPOLITAN RAILWAY
INDIAN
OCEAN
MOZAMBIQUE CHANNEL
MADAGASCAR
CAPE OF
GOOD HOPE
BORNEO
AUSTRAL
GILPIN
ECONOMIC
MAR


GREENLAND
BAFFIN BAY
BAFFIN LAND
BEHRING SEA
COSMOPOLITAN RAILWAY
NORTH AMERICA
HUDSON BAY
LABRADOR
ERMAL AXIS
NEW FOUNDLAND
BOSTON
SAN FRANCISCO
UNITED STATES
ACIFIC
GULF OF MEXICO
BAHAMAS
WEST INDIES
SANDWICH ISLANDS
CEAN
SOUTH AMERICA
BRAZIL
RIO JANIERO
RICAN
ND CORRECT
ORLD

THE COSMOPOLITAN RAILWAY

CHAPTER I

THE PHYSICAL ASPECT

In the overland journey from the Missouri river to the Pacific ocean, there are three well-defined historic points of comparison; namely, the fur epoch, the period covered by the early emigrations to Oregon and California, and the latter-day luxurious railway transit.

The first was a constant warfare on the part of the intruder, with wild beasts and Indians, to secure the skins of the former and avoid losing his own skin to the latter. Escaping this evil, there was the fear of others constantly present, such as dying of hunger, thirst, or disease, or living to become more savage than the savages themselves.

The second was in some respects an improvement upon the first, and in other respects a retrogression. It lacked the element of chivalrous adventure conspicuous in the other, which combined the sentiment of war with the peaceable results of conquest and colonization. There were plenty of savages left, though now somewhat demoralized by intercourse with white men—the Crows and Cheyennes, the Utes, Shoshones, and other tribes, with not infrequent visitations of famine and pestilence, cholera, dysentery, and fever, mingled with man-eating experiences in the mountains and parched thirst on the plains. Measureless areas of prairie, mountain, and valley, since cut into states and covered by the spirit of our institutions, were then alive with buffalo, deer, and antelope, and filled with natural wealth since exposed by mining and agriculture.

Now, in place of mule, mustang, horse and ox team, we have polished and upholstered sleeping-cars flashing through this so lately primeval wilderness at the rate of as many miles per day as were made per month before.

A railway connecting the northernmost line in British Columbia with the nearest station in Russia, by way of Bering strait, must pass northward through Alaska by one of two routes; that is, either up through the interior and down the Yukon, or around by the seashore. The border lines on both sides of the strait, and around into the Arctic ocean, as well as southward along the shores, respectively of Asia and America, have been pretty well known for a century and a half; the interior of Alaska is but little known to this day.

Bering strait and sea lie for the most part south of the Arctic, between latitudes 60° and 66½°, in the latitude of Iceland, Norway, Sweden, and Finland, the cities of Christiania, Stockholm, and St Petersburg being within these parallels.

Before we permit ourselves to be frightened by the snow and cold of Alaska and Siberia, we should consider the old-time maxim that to see St Petersburg comfortably one should go in the winter, and the further fact that Russians wait for winter to cross Siberia, as the roads are then in better condition, and always begin the journey at night instead of in the morning.

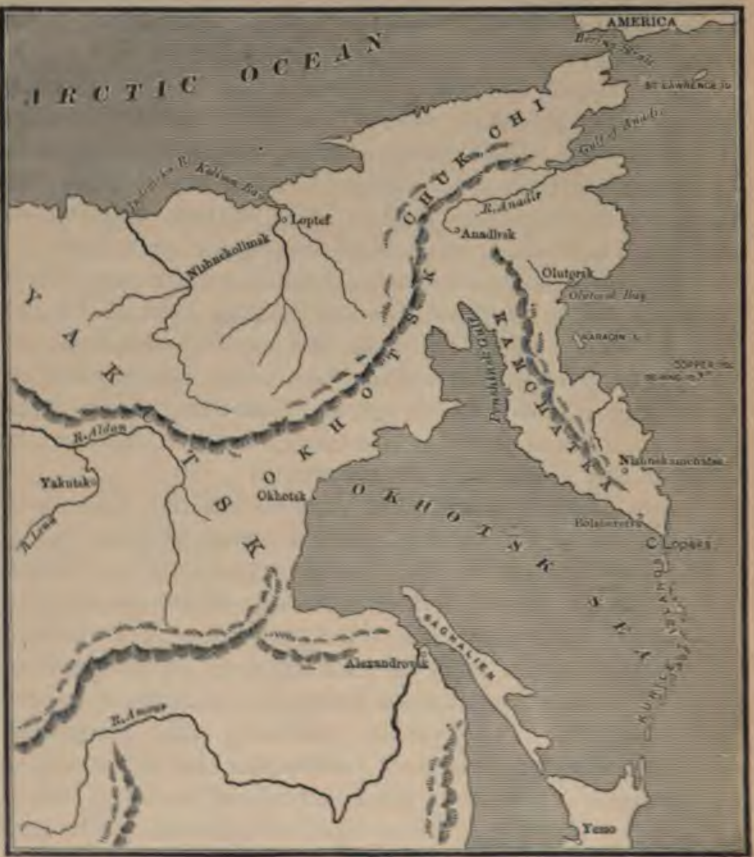
In Norton sound ice usually begins to form in October, but seldom offers serious obstruction until late in winter, as it breaks up and is carried out to sea until the extreme cold solidifies it. Although the climate is warmer on the coast than in the interior, the cold is here more severely felt, owing to the moisture. The ice on the rivers is usually covered with snow in winter, except during the early part of it.

Soundings were early made hereabout, as well as along the Asiatic coast and around the islands of St Lawrence and St Michael. It has long been known that Bering sea is shallow, vessels being able to anchor in almost any part of it. At St Michael's there are but five fathoms of water, increasing, however, to twenty-five fathoms at St Lawrence's. The average depth between latitudes 64° and 66° falls a trifle under nineteen and a half fathoms. Between St Lawrence island and Plover bay the average is thirty-five fathoms, shoaling to nineteen fathoms on approaching the bay itself. The bottom consists of soft mud and sand, with here and there gravel.

Lichens and mosses are about the only vegetation seen among the rugged mountains that protect Plover bay on three sides, and make it one of the stillest and safest harbors in the world; but near Emma harbor is an open patch where graze tamed reindeer. Ice begins to form here in October, and in November Plover bay is entirely frozen over.

Imposing volcanoes constitute a leading feature of the peninsula of Kamchatka. Petropaulovski has a good deep harbor well set in among the hills, with a long spit in front, and a smoking white mountain, Koriatski, in the distant background. The climate is no worse than that of Canada and some parts of New England, agriculture being by no means impossible, hay and vegetables reaching full perfection during the short summer. Between the bay and the mountains is a rather level stretch of country, intersected by streams, and covered with rank grass and underbrush.

The Aleutian islands, or insular continuation of the Alaskan peninsula, are the broken bridge which may at one time have connected the continents of Asia and America, and which separate the sea of Kamchatka from the Pacific ocean. Along the whole length of this volcanic chain are warm springs, and now and then a volcano in periodic operation. A cloudy spring and hot summer are followed by a severe winter. The vegetation consists of low, scrubby trees and bushes, with grasses, mosses, and lichens. Potatoes and other garden vegetables are grown successfully, and in places the hardier descriptions of grain.



EASTERN SIBERIA.

The trend of mountains in Alaska is northwest and and southeast, the directions a traveller starting from civilization would wish to take in going to and coming from the sea and strait of Bering. It is the frozen horn of the continent, toward which all ranges converge—the continental cordillera, coming all the way from Cape Horn, and the Nevada-Cascade range here joining, while the Coast range from California sweeps round Mount St Elias and breaks into the islands of the Aleutian archipelago.

Says Bancroft in his *History of Alaska:* "Standing at Mount St Elias as the middle of a crescent, we see the shore line stretching out in either direction, toward the southeast and the southwest, ending in the former at Dixon inlet, and in the latter sweeping off and breaking into mountainous islands as it continues its course toward Kamchatka.

"It is a most exceedingly rough and uncouth country, this part of it; the shore line being broken into fragments, with small and great islands guarding the labyrinth of channels, bays, sounds, and inlets that line the mainland. Back of these rise abruptly vast and rugged mountains, the two great continental chains coming together here, as if in final struggle for the mastery.

"The Coast range along the Pacific shore of Alaska attains an elevation in places of 8,000 or 9,000 feet, lying for the most part under perpetual snow, with here and there glistening white peaks 14,000 or 16,000 feet above the sea.

"And the ruggedness of this Sitkan or southern seaboard, the thirty-miles strip, as it is sometimes called, with the Alexander archipelago, continues as we pass on to the Alaskan mountains and the Aleutian archipelago. It is in the Alaskan range that nature assumes the heroic, that the last battle of the mountains seems to have been fought. The din of it has as yet hardly passed away; the great peaks of the range stand there proudly triumphant but still angry; grumbling, smoking, and spitting fire, they gaze upon their fallen foes of the archipelago, giants like themselves though now submerged, sunken in the sea, if not indeed hurled thence by their victorious rivals.

"These great towering volcanic peaks and the quaking islands are superb beyond description, filling the breast of the beholder with awe. And the ground about, though cold enough upon the surface, steams and sweats in sympathy, manifesting its internal warmth in geysers and hot springs, while from the depths of the sea sometimes belches forth fire, if certain navigators may be believed, and the sky blazes in northern lights.

"All along this sweep of southern seaboard Europeans may dwell in comfort if so inclined. Even in midwinter the cold is seldom severe or of long duration. An average temperature is 42°, though extremes have been named for certain localities of from 19° to 58°, and again from 58° below zero in January to 95° in summer. Winter is stormy, the winds at Sitka at this season being usually easterly, those from the south bringing rain and snow. When the wind is from the northwest the sky is clear, and the cold nights are often lighted by the display of the aurora borealis. Winter breaks up in March, and during the clear, cold days of April the boats go out after furs. Yet, for a good portion of the year there is a universal and dismal dampness—fogs interminable and drizzling rain; clouds thick and heavy and low-lying, giving a water fall of six or eight feet in thickness.

"Much of the soil is fertile, though in places wet. Behind a low wooded seaboard often rise abruptly icy steeps, with here and there between the glacier cañons broad patches of sphagnum one or two feet thick, and well saturated with water. The perpetual snow-line of the Makushin volcano is three thousand feet above the sea, and vegetation ceases at an altitude of two thousand five hundred feet. Grain does not ripen, but grasses thrive almost everywhere on the lowlands. Berries are plentiful, particularly cranberries, though the sunlight is scarcely strong enough to flavor them well. Immense spruce forests tower over Prince William sound and about Sitka. Kadiak is a good grazing country, capable of sustaining large droves of cattle. On the Aleutian island trees do not grow, but the grasses are luxuriant. In a word, here in the far north we find a vegetation rightly belonging to a much lower latitude.

"The warm Japan current which comes up along the coast of Asia, bathing the islands of the Aleutian archipelago as it crosses the Pacific, and washing the shores of America far to the southward, transforms the whole region from what would otherwise be inhospitable into a habitation fit for man. Arising off the inner and outer shores of lower California, this stream first crosses the Pacific as the great northern equatorial current; passing south of the Hawaiian islands and on to the coast of Asia, deflecting northward as it goes, and after its grand and life-compelling sweep, slowly returns to its starting-point. It is this that clothes temperate isles in tropical vegetation, makes the silk-worm flourish far north of its rightful home, and sends joy to the heart of the hyperborean, even to him upon the strait of Bering, and almost to the Arctic sea. It is this that thickly covers the steep mountain-sides to the height of a thousand feet and more with great growths of spruce, alder, willow, hemlock, and yellow cedar. It is the striking of this warm current of air and water against the cold shores of the north that causes nature to steam up in thick fogs and dripping moisture, and compels the surcharged clouds to drop their torrents. . . . .

"Go back into the interior if you can get there, or round by the Alaskan shore north of the islands, along Bering sea and strait, which separate Asia and America, and indent the eastern border with great bays into which flow rivers, one of them, the Yukon, having its sources far back in British Columbia; ascend this stream, or traverse the country between it and the Arctic ocean, and you will find quite a different order of things. Clearer skies are there, and dryer, colder airs, and ice eternal. Along the

Arctic shore runs a line of hills in marked contrast to the mountains of the southern seaboard. Between these ranges flow the Yukon with its tributaries, the Kuskokvim, Selawik, and other streams."

Asia has more and higher mountain ranges than America, higher and broader plateaus, and a larger area of desert. Some idea of the configuration may be gained from the names geographers give to the four nearly parallel belts into which the continent may be divided, as arctic, desert, peninsular, and insular Asia.

It is common, particularly in England, to apply the name Siberia to all the Russian possessions in Asia, except the provinces of Transcaucasia and Armenia. Thus defined, Siberia extends from the Arctic ocean and the seas of Kamchatka, Okhotsk, and Japan, arms of the Pacific, to the Ural mountains and river, and the Caspian sea. Russian Asia, including centrial Asia, but not the Caucasus, has an area of 6,000,000 square miles, with a population of 4,500,000, or less than one person to the square mile. The greatest length of Siberia from northeast to southwest is 5,600 miles, and its greatest breadth, north and south, 2,170 miles.

Leaving the Arctic plain in the north, we have the Siberian plain, which still belongs to arctic Asia, on a line with the great plain of Europe. The great Siberian plain stretches southward as far as the Elburz and Altai mountains. Here are the vast grassy steppes where dwell the nomadic Tartars, with sheep and horses for food. Forests of perpetual green, filled with fur-bearing and other animals, the cleared portions inhabited by Europeans, line this region on the north, while beyond are the tundras, or mossy swamps, whose nomad tribes subsist mainly on fish and reindeer.

Desert Asia lies well to the south, and extends in a broad belt of high plateaus from near the Pacific ocean to the Red and Mediterranean seas. Here lies

Thibet, high in air, the highest plateau in the world. Along this belt the climate for the most part tends toward extremes, hot in summer, cold in winter, and in many places extremely dry, though east of the Indus there is a sufficiency of moisture. The deserts along this line are interspersed with vast areas of low and fertile lands, rich agricultural valleys and mountain slopes, which, like the valley of the Euphrates, was once the seat of great empires.

The great interior, from east to west, is inhabited by Mongolians, the Caucasians confining themselves to the country south of the Himalaya and Caucasus mountains.

Three rivers drain four fifths of Siberia, the Lena, the Yenisei, and the Obi, all flowing into the Arctic ocean. There are many lakes and salt marshes. The moorlands, swamps, and mossy flats bordering the northern ocean are in Siberia, as in the Arctic shore of Alaska, under ice and snow for half the year; the liberating rays of summer penetrate the surface of the earth but a few inches. For miles seaward the ocean remains frozen for more than half the year, ice bergs and floes covering the sea during the remainder. Proceeding southward from this almost barren shore, zones of ever-improving vegetation are crossed, first bushes and scrubby trees, then forests of fir, birch, and larch, interspersed with pasture lands. South of latitude 64° in western Siberia, and of 61° in the eastern part, the more hardy cereals appear—rye, oats, and barley—the soil increasing in fertility until thick woods of cedar clothe the mountain-sides, while the valleys, particularly along the rivers, yield good returns under cultivation.

The great plain of western Siberia slopes toward the Arctic ocean, with an average elevation along its southern line of 2,000 feet, except the southwest corner, whose waters are drained into the Aral and Caspian seas. In the provinces of Tobolsk and Tomsk is much fertile land; it is well known that the steppes of Ishim and Baraba have long been one of the chief granaries of northern Europe. The valley of the Yenisei, north of the Sayansk mountains, is warm and productive. We may say generally that the western portion of Siberia is more fit for cultivation than the eastern portion, the latter being more hilly, yet affording good pasture.

If we examine the mountain ranges of central Asia we find the Altai chain on the southern border of Siberia, thence dropping southward into Mongolia, and spreading eastward as well, but offering no obstruction to northern overland travel, while the Ural range ramifies southward from the Arctic across the line from Bering sea and toward St Petersburg. Along the peninsula of Kamchatka, and on the island of Saghalien are high mountains, interspersed with volcanoes, the highest having an elevation of 15,000 feet. There is nothing formidable in the Stanovoi hills which skirt the sea of Okhotsk, northward from Amooria; while the Russian exploring expedition of 1863 proved mythical the Yablonnoi mountains, laid down in the early charts, and which careless geographers still lay down along Amooria, between the basin of Indigirka and Okhotsk sea. No such range exists, what were supposed to be mountains being merely undulating plains.

The Ural mountains of Russia are far less formidable than the Rocky mountains of America, being a broad range of no great elevation.

Siberia sends westward her products by river and land carriage, usually by way of Tobolsk, and over the Ural mountains. The Russians have steamboats on the Amoor; the Lena is navigable for a long distance. There is a considerable commerce between Archangel and the rivers Yenisei and Obi. Trade is carried on to a great extent by barter, and at fairs regularly held at certain places. The chief cities of Siberia are Irkutsk, founded in 1661, Tomsk in 1604, Tjumen, and Tobolsk.

That Siberia, as well as Alaska, is a rich mineral country there is no doubt. In all the mountainous regions of the west and south are vast deposits of gold, silver, copper, and lead; while on the eastern slopes of the Ural mountains are diamonds and other precious stones, iron, and platinum; in the country north of the Amoor river emeralds and topaz, zinc, arsenic, antimony, and plumbago; and elsewhere, jasper, malachite, and salt.

The silver mines of the Nerchinsk district in eastern Siberia, near Mongolia and the Amoor, have been worked by the Russian government since the year 1700. There are also rich gold placers as well as iron in this vicinity. Intelligent Russians criticise the management of the government, whose agents are both incompetent and corrupt. Little, indeed, could be expected from convict labor, shiftless superintendents, rascally agents, primitive methods, poor tools, and imperfect appliances.

As the great American deserts have been ever lessening since the advent of railways, so will the deserts of Asia become less and less, until their wastes shall blossom as the rose. Opinion cannot be more unfavorable now in regard to the desert lands of the old world, than prevailed here a short time ago as to our own. Large portions of the Rocky mountains, and thence to the Pacific ocean, were regarded as arid regions, lands burnt up and good for nothing. How is it now? Scarcely a spot has been found where water will not produce vegetation.

The century-march of the Cossacks across Siberia began in 1578. A boundless expanse opened to the Russians on their east, inviting the down-trodden Slav to more freedom of action, and opportunities for conquest and occupation. The flesh of wild beasts afforded food, and their skins became the basis of traffic. "Vast as is the area of Siberia," says Bancroft in his *History of Alaska*, "its several parts are remarkably similar. Plants, animals, and men, climate, conditions, and customs, are more alike than on the other side of the strait of Bering. The country and its contents are upon a dead level. A network of navigation is formed by the upper branches of rivers flowing into the frozen sea though the tundras, or ice-morass, of the north, so that the same kind of boats and sledges carry the traveller across the whole country. The fierce and cunning Cossacks of Russia were in marked contrast to the disunited semi-nomads of Siberia, busy as they were taming the reindeer, hunting with dogs, or fighting with the bow and arrow and lance; and if they could conquer the Tartars of the Obi, there was no reason why they could not march on to the Pacific."

In the first invasion of Siberia by the people of the west, advance was made in small scattered bodies, no heavy force being required for subjugating the natives. And as I am by no means sure that the route of the Cosmopolitan Railway will be far from their track, we may as well follow further this century-march across Siberia. It will not be time lost, as introductory to our subject, briefly to notice what travellers have seen and said of this region.

When furs were the circulating medium of Russia, her people were induced to scatter themselves throughout the wilderness in search of them, even as now civilized peoples ransack the globe for gold. The foreign trade of Russia was for two and a half centuries controlled by the Hanseatic league, until in 1553, in a search for a northeast passage to China, an English vessel found its way into the White sea, and the Russian company of English merchants was formed. Cossack pirates, infesting the Caspian and lower Volga and preying upon commerce, being driven thence by the English merchants, betook themselves under enterprising leaders to the strange countries eastward, and thus began the advance of the Slav race toward the Pacific.

While the Cossacks were engaged in their century-march across Siberia, maritime powers under various pretences surveyed the seas. An English expedition undertook the northeast passage in 1580, the Russians meanwhile maintaining a coasting trade. Hollanders next attempted the northeast passage, Willem Barentz discovering and naming Ys Hoek, or Ice Cape. A second expedition sailed from Amsterdam on the same mission in 1595.

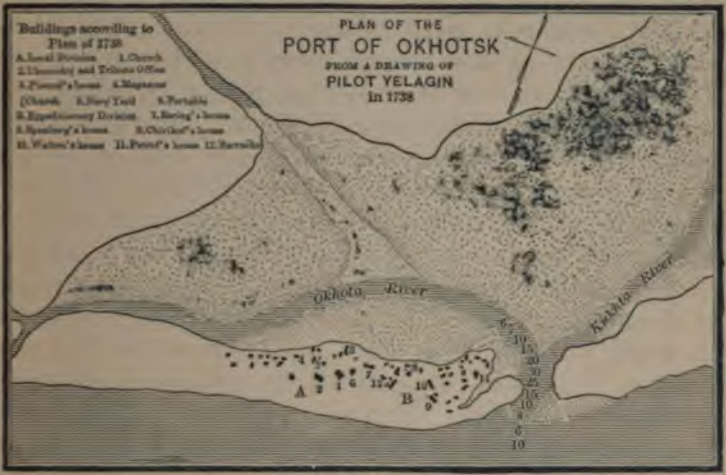
Yermak Timofeief led the pioneer band of Cossacks, starting from the shores of the Black and Caspian seas in 1578, and capturing at the river Ob a little Tartar sovereignty, a fragment of the great monarchy of Genghis Khan. The first *ostrog*, or fort, of the eastward-bound Cossacks and Russians was built on the Tobol, and became later Tobolsk, the headquarters of organized government, and starting-point for future expeditions. "Thence their conquering march," says Bancroft, "was straight through the middle of Siberia, the line being equidistant from the mountains of the south and the morasses of the north, and it later became the principal line of traffic. On this line, cutting through the various river regions, the chief colonies of the country were founded. Eastward from Tobolsk, in the territory of the river Ob, the city of Tomsk; eastward from this on the Yenisei, the city of Yenisei; then Irkutsk and Yakutsk in the Lena district; and finally, on the shore of the Pacific, Okhotsk, which stands upon about the same parallel as the starting-point. These cities grew up successively one out of the other, and for every new river province, the last served as a *point d'appui* for the various enterprises, military or commercial. At every important river a halt was made, during which they settled themselves more firmly, and organized their new territory. They built boats, explored up the rivers and down them, even to the frozen ocean, where they founded settlements. The Cossacks themselves were a light troop; but they were preceded by a still lighter, a flying advance guard, called the *promyshleniki*, a kind of Russian *coureurs des bois*. They were freebooters, who hunted on their own account and at their own risk. No one could control them. They flitted everywhere in the woods and morasses, companions of wild beasts. They made the several first discoveries in Siberia, and brought home the earliest information of hitherto unknown parts." Thus, like the trappers and fur-traders who first found a path across America for the overland railway, these wild Russian nomads, little knowing the significance of their doings, marked out the line across Siberia for the future great world-uniting Cosmopolitan Railway.

The Cossacks reached the Lena river in the spring of 1628. There they built a boat, and rowed up and down the river to the confusion of the natives, who pacified them by tributes of sable-skins. The chieftain Beketof descended the Lena in 1632 to the Yakut nation, and built an ostrog, which became Yakutsk, the capital of eastern Siberia, and point of departure for expeditions to the Arctic and the Pacific.

From the Lena the northeastern horn of Asia extends five or six hundred leagues, narrowing along the way, while the intersecting streams become smaller and smaller until the Anadir is reached. The river Yana was discovered by a party of Cossacks who made the journey from the mouth of the Lena by water, others, from Yakutsk, mounted on horses finding its sources. Finally the mountains on the eastern border of Siberia were crossed in 1639, and an ostrog built where now is Okhotsk, on the shore of the Okhotsk sea, an important initial point for observation and enterprise. Another route to the Pacific was found by some Russians who ascended the Lena to Lake Baikal, and thence by way of the Amoor through China. An expedition of 132 men, under Vassili Posharkof, set out from Yakutsk in 1643, following the Amoor to its mouth, and thence along the coast to the Okhotsk sea, and back by the direct route to the point of departure.

Having followed the first comers to the Asiatic shore of the Pacific by the route a Cosmopolitan Railway will probably take, in order further to familiarize ourselves with the features of the country, I will briefly note some of the expeditions which followed.

A survey was ordered in 1648 by the tsar Alexis, in seven *kotches*, or small decked boats, of the coast northward from the Okhotsk sea in search of the mouth of the Anadir, of which Simeon Deshnef gave an account. From Anadirsk, in 1669, a roving band under Luke Morosko penetrated far to the southward. It was toward the end of the century before the Russians knew much of Kamchatka, and then they found that the Japanese had been there before them. In 1706, from the southern end of the Kamchatkan peninsula, they first saw islands of the Kurile chain. In *Müller's Voyages* we find an account of the first passage by sea from Okhotsk to Kamchatka, which took place in 1716. After this there was constant navigation between the two points.



Plan of Okhotsk.

Two surveyors, Ivan Yevreinof and Fedor Lushin, were in 1719 sent by the Russian government in search of the Kurile islands, as it was said that from one of them the Japanese used to obtain gold and silver. "Obviously the great land opposite," says Bancroft, "if any such there was, would present aspects quite different to the tough Cossacks and to the more susceptible Europeans from the south. The American Siberia, this farthermost northwest was once called, and if to the American it was Siberia, to the Siberian it was America. The eastern end of Asia is lashed by the keen eastern tempests, and stands bleak and bare, without vegetation, and the greater part of the year wrapped in ice and snow. The western shores of America, though desolate and barren enough within the limits of Bering sea, are wonderfully different where they are washed by the Pacific and protected from the east by high chains of mountains. Here they are open to the mild westerly winds and warm ocean currents; they have a damper climate, and, in consequence, a more vigorous growth of trees and plants. In comparatively high latitudes they are covered with fine forests down to the seashore. This is a contrast which repeats itself in all northern countries. The ruder Sweden in the east contrasts in a like manner with the milder Norway in the west; the desolate eastern coast of Greenland, buried in polar ice, with its western coast inhabited, and at times gay with flowers and verdure. Thus the great eastern country, the *bolshaia zemlia*, rich in harbors, shelter, woods, and sea and land animals, might well become by report among the northeastern Asiatics a garden of paradise."

Soon after this were made the Kamchatka expeditions, the first one of Vitus Bering, with Chirikof, being prepared in 1727, and the following year proceeding northward along the coast far enough to satisfy themselves that Asia and America were not united. Another expedition in two divisions, one by

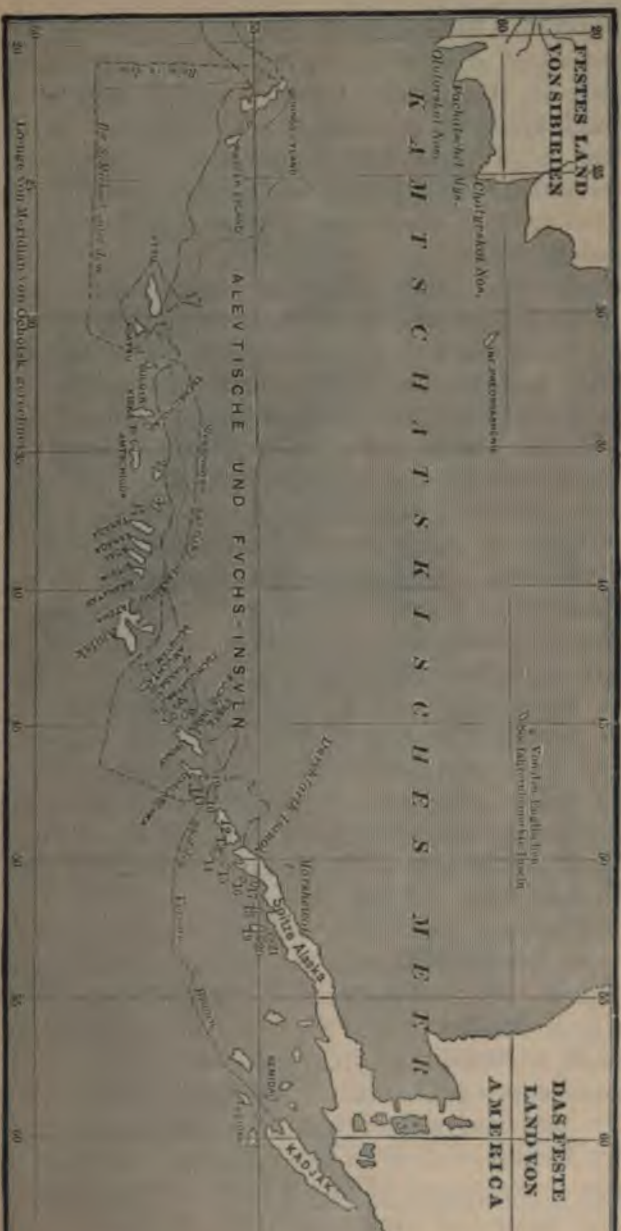

FESTES LAND VON SIBIRIEN
KAMTSCHATSKISCHES MEER
ALEVTISCHE UND FVCHS-INSVLN
Spitze Alaska
KADJAK
DAS FESTE LAND VON AMERICA
Länge von Meridian von Ochotsk gerechnet

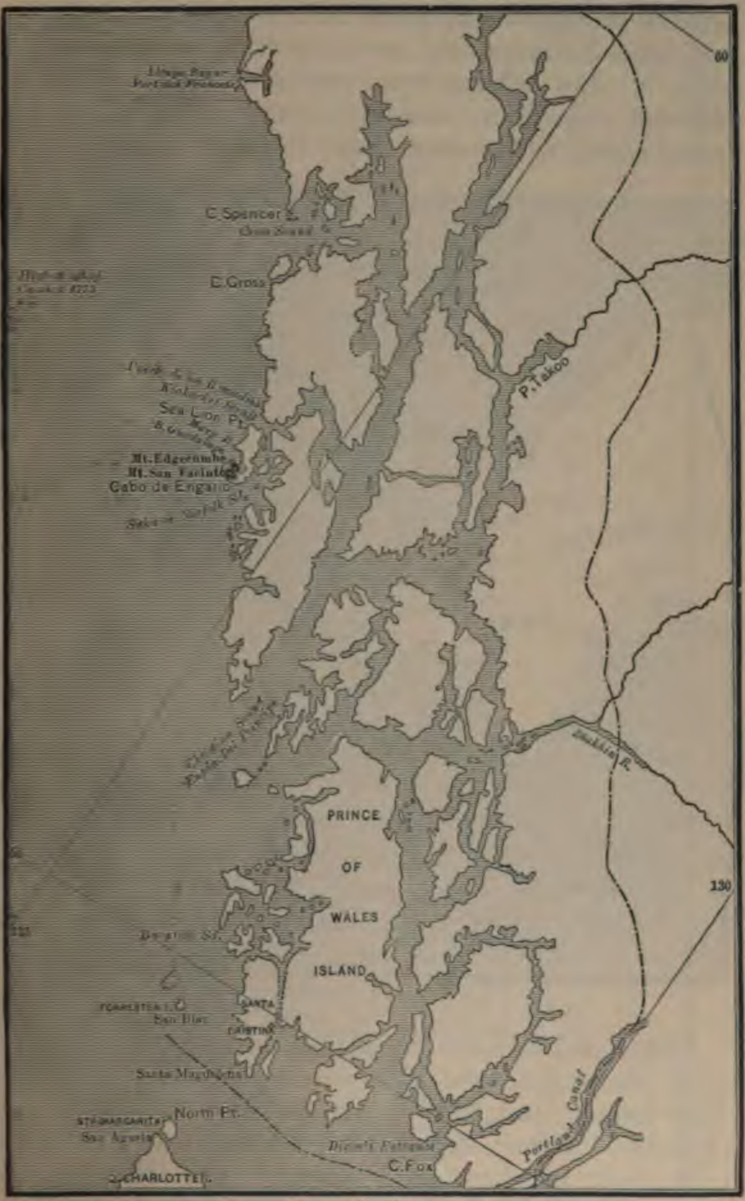
CHART OF GVOZDEF'S LAND.

land and one by sea, were made about the same time in the same direction, during which a glimpse was caught of the opposite shore, and a map made by Mikhaïl Goozdef, geodesist. The second voyage of Bering, who embarked from Okhotsk, was made at the command of the empress Elizabeth, in 1740, and resulted in the discovery of the American coast at Mount St Elias.

Among the early Russian voyages of discovery, following the swarming of the promyshleniki over the newly found islands and main land, were the expedition of Korovin, in 1762, from the mouth of the Kamchatka river to Umnak island, where he met with serious loss and discomfiture at the hands of the natives; the voyage of Glottof to Unalaska and Kadiak, occupying the four years from 1762 to 1765; the voyage of discovery of Lieutenant Synd of the imperial navy, who had been a companion of Bering, and who sailed from Okhotsk in 1764, in the direction of Bering strait; the expedition to Unalaska under Krenitzin, organized by Chicherin, governor of Siberia, under the auspices of the imperial government, and under the instructions of the admiralty college; the surveying expedition of Zaïkof, a master in the navy, to Copper island; not to mention such adventurous expeditions as those of Benyovski, Delarof, Pribylof, Shelikof, and a dozen others, attended in the main by goodly harvests of furs.

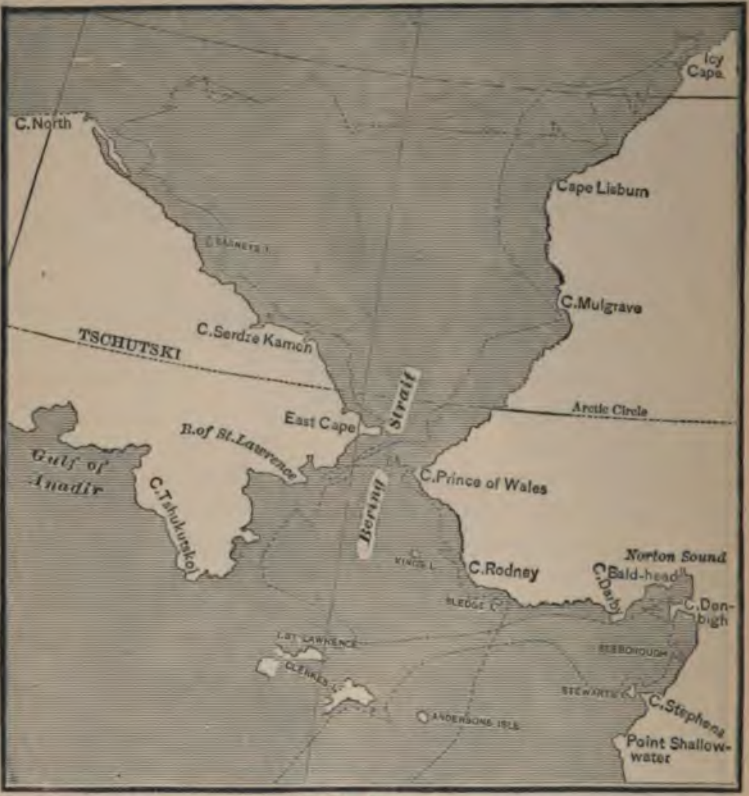
First among the foreign powers officially to visit and observe what Russia was doing in this quarter was Spain. Under instructions from Revilla Gigedo, viceroy of Mexico, in 1774, Juan Perez sailed in the *Santiago* to within sighting distance of one of the southern capes of Alaska. A second Spanish expedition to Alaskan waters was made in the year following by Bruno Heceta in the *Santiago*, with Bodega y Cuadra in command of the *Sonora* as consort.

Next came the English, in the person of Captain Cook, with the ships *Resolute* and *Discovery*. This



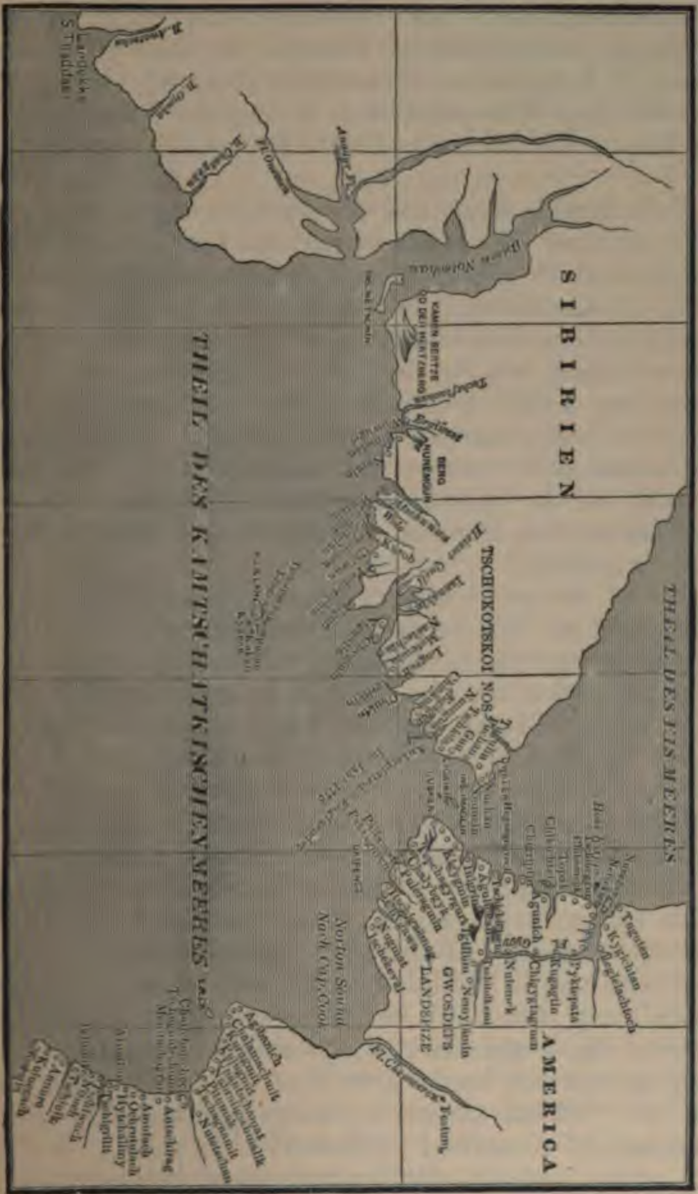
CUADRA'S VOYAGE.

famous navigator surveyed and named many places, and made known to the world more about the country than all the others who preceded him. Another Spanish expedition under Arteaga and Cuadra followed Cook, with new surveys and new namings.



COOK'S VOYAGE.

After this came the Frenchmen, La Pérouse and Marchand; the Englishmen, Meares, Portlock, and Dixon; and the Spaniards, Martinez, Haro, and Fidalgo. Other expeditions, scientific and commercial, such as those of Vancouver and Billings, the doings of Shelikof, Baranof, and Konovalof, colonization and missions, the organization and action of the


SIBIRIEN
AMERICA
THEIL DES KAMTSCHATKISCHEN MEERES
THEIL DES EIS MEERES
TSCHUKOTSKOI NOS
GWOSDETS
LANDSEZE
Norton Sound
Nach Cap. Cook
KAMEN BERTZE
BERG
Fl. Chwatlogik
Teshum

BRAGIN'S MAP.

Russian-American fur company, the founding of Sitka, the settlement at Yakutat bay, and the later visits of Krusenstern, Lisiansky, Rezanof, Golovnin, Astor's ship *Enterprise*, and Kotzebue, throw much light upon the nature and condition of the country.

Considerable time and money have been spent on both sides of the strait in surveys for lines of telegraph, and if the proposed construction has never been consummated, such failure was in no instance owing to impracticability as to physical features or other causes, but to the successful laying of lines across the Atlantic, thus rendering one across Bering strait of less cosmopolitan importance. As the observations and surveys for lines of telegraph will greatly aid in forming a proper conception of configurations and climates, I will briefly present a few of their results.

There is no better authority than Frederick Whymper on the territory traversed by him at the season during which he visited it. Across the strait, in Kamchatka, the Amoor river country, and overland across Siberia, we have for detailed description Perry McD. Collins, who had some thought of an overland telegraph and cable via Bering strait and Asiatic Russia to Europe, under Russian and British grants, and made some surveys in that direction.

It was during the winter of 1856–7 that Collins made his journey down the Amoor, setting forth from Moscow early in December. Noting with what ease a railroad might be built over the smooth and regular grade along the Ural, he passed on from Ekaterinburg to Omsk and Irkutsk, where he found the river Angara not so frozen over that he could cross on the ice. "What strikes a stranger particularly with amazement," remarked Collins at this point, "is the vast extent and wonderful resources of this country."

Irkutsk, the capital of eastern Siberia, had at this time about 20,000 inhabitants, and twenty-four hours thence by rail, were such a road at hand, would bring the traveller to the Amoor river, the great outlet for the waters of northeastern Asia.

After spending the remainder of the winter in visiting the places of interest in this vicinity, notable among which were the silver mines of Zarentunskie, the gold mines of the Onon, and the mines of Nerchinsk, Collins, with some companions, began the descent of the Amoor in a flat-bottomed barge, forty feet long and twelve feet wide, the time from Chetah by such conveyance to the mouth of the river being from two to three months. The vessel was freighted for the Russian American company and the government.

The Ingodah, on which stream preparations were made for embarkation in May, runs through rolling hills and broad prairies, and now and then through well-wooded mountains. A week of spring sunshine in this country performs miracles, changing a bare and wintry forest into full-leaved trees and blooming shrubs. The country drained by the upper Amoor on the whole is flat, though there are wide ranges of mountains. The surface is covered in many places with birch larch, and pine forests, and rich grasses in the bottom-lands. The weather at this season of the year was pleasant, the temperature during the day being from 60° to 80°. As the Pacific is approached the region becomes more mountainous, and the stream broadens out wider than the Mississippi.

Coöperative with Asiatic efforts, and forming part of the foreign projects, was that of the Western Union telegraph company of America, the largest corporation of the kind then in existence. In 1865 an expedition, having a military organization, was fitted out at San Francisco, for explorations under Colonel Bulkley of the United States army, who had been chosen engineer-in-chief of the proposed line. Of this expedition Whymper was a member, joining at Victoria on the 30th of June the company's steamer

Wright, en route for Sitka. After two years of labor and an expenditure of $3,000,000, the project was abandoned, not from any insurmountable difficulties in the way, but owing to the completion of the transatlantic cable, the idea of whose success at the time of the organization of the expedition was not entertained with any degree of confidence. That achievement consummated, however, it seemed unnecessary at that time to continue reaching out for the same result by the longer western route, or to complete the lightning belt around the earth, which will erelong be an accomplished fact.

At Sitka were made up by Colonel Bulkley two parties for the Anadir and Yukon rivers, the former in charge of Lieutenant McCrea, on board the schooner *Milton Badger*, the latter under command of Captain Scammon, with the bark *Golden Gate*, Bulkley with the *Wright* having them both in tow at times. Sailing westward the 22d of August, the two vessels kept company for several days, the land when in sight displaying grassy slopes with few trees visible. Passing the rocky peninsula and the volcanic isles of the Aleutian archipelago, many smoking mountains were seen, the hills at Norton sound, where they arrived on the 12th of September, being red and parched, for the short summer here is very hot.

The Bulkley expedition returned to San Farncisco in November and wintered there, little thus far having been accomplished further than to reconnoitre. But the year 1866 saw in the field 500 white men, and besides, large numbers of Chinamen in British Columbia, Cossacks in eastern Siberia, and Indians on both continents, exploring routes, transporting supplies, and erecting lines of telegraph. There were now in the expedition seven sea-going vessels, the steamer *Wright* having been refitted, the clipper *Nightingalé* purchased, and three river steamboats built specially for the service.

Entering Petropaulovsk harbor on the 25th of July, they found there the Russian corvette *Variag*, whose commander, Lung, reported to Bulkley according to instructions. The thermometer showed a temperature of 80° in the shade, and wild flowers were abundant.

Steaming up the rugged coast from Petropaulovsk on the 6th of August, the grand and imposing volcanic peaks along the line showed bare and sterile sides, the snow having to some extent melted from many of them. Round the gulf of Anadir the land is low, and notwithstanding the heat the beach was well packed with ice and snow.

McCrea, in charge of the Anadir explorations, had his camp at the mouth of the river. With him, among others, was Mr Bush, who explored 2,500 miles the previous winter from the Amoor river to the mouth of the Anadir. These men reported that river as navigable for 300 miles, with no great rapids, and subject to freshets in the spring, when it suddenly rises, sometimes twenty feet, flooding the surrounding country. Along its banks was found in places considerable light timber, and salmon, geese, and deer were abundant. The coldest weather they encountered during the winter was 84° below freezing.

Thence the expedition went to Plover bay, where several of their ships were lying, and a station was in process of construction. Fourteen men under Mr Kelsey were left there during the winter of 1866–7, to build the telegraph line through the rugged region toward Russia.

Norton sound, opposite, where the expedition next proceeded, was superficially surveyed by Captain Cook. It is shallow, so much so that vessels have struck bottom a mile from shore. The wind sometimes makes a dangerous sea, which the shallowness of the water by no means tends to lessen.

Explorers had been left in Alaska the previous season, and the country from the coast to Fort Yukon had been traversed; the new arrivals prepared to ascend the Yukon, whither we will briefly follow them.

In a loaded baidarre and a small steamboat, the *Wilder*, the party set forth along the shore for Unalachleet, some sixty miles distant, on the 2d of October, the thermometer being at about 10° Farenheit. The Unalachleet river was found to be frozen up, and the water-craft had to be abandoned. At the mouth of this stream was a Russian trading-post, founded in 1840. Soon the men were at work, adding to the winter quarters begun the previous season, as some forty of the present party were to remain here, and begin the construction of the telegraph line from this point.

A detachment of nine persons, in sledges drawn by dogs, set out on the 27th of October for a point on the Yukon about seven hundred miles away. Taking to the river, whose surface for the most part was well frozen and the ice covered with snow, and on whose banks was an abundance of spruce, fir, and birch, they continued their course for some distance, when striking out across the hills, after a varied experience, they reached the Yukon in safety. The river here was a mile wide, and not altogether frozen. "Let the reader think of a river two thousand miles long," says Whymper, "and anywhere at this part of its course from one to four miles wide, one unbroken mass of snow-covered ice from its source to its mouth, and he will then have pictured to himself the Yukon in winter."

A party ascended the Yukon as far as Nulato, some continuing as far as Fort Yukon. On the 15th of January, 1867, the thermometer fell as low as 49°, the entire winter having eleven days when the temperature fell below the freezing-point of mercury. A thaw set in early in April, and in May there was a general breaking up of ice in the rivers. The upper Yukon is for the most part navigable, though passing through many mountain gorges. Specks of gold have been noticed by the Hudson's Bay company's men, and for aught any one knows to the contrary, there may be present mountains of precious metal, enough to revolutionize the world's commerce.

Telegraph-building continued throughout the winter of 1866–7, the men working in a temperature sometimes below the freezing-point of mercury, when the surface of the ground, lying under five feet of snow, was frozen as hard as a rock, and their tools cracked from the intense cold.

Upon the Western Union telegraph scheme, in general, Whymper remarks:

"Great doubts were at times thrown on the practicability of this project, and it has for the present, at least, been completely superseded by the success of the Atlantic cable. The work proposed was virtually the same—to unite the old and new worlds. The line, as proposed, was to extend the already constructed line in British Columbia northward through Russian America, across Bering strait, and then proceed southward through eastern Siberia, till a junction should be made with the Russian lines already built to the Amoor. New York being in constant communication with San Francisco, and San Francisco with British Columbia, the connections would have been complete.

"I propose to notice some of the objections which have been at various times raised, but many of which entirely disappeared when our explorers had examined the country.

"1. The difficulty of keeping up a line running through a more or less arctic, thinly populated, and barren country.

"Already in the United States some of the principal and paying lines run through country of doubtful value and thinly populated. The Russians, moreover, have a great line which enables them to communicate from St Petersburg to Irkutsk and the Amoor; and our proposed line hardly ran through wilder or more barren countries than those just mentioned. The Western Union line was to have followed, more or less closely, the courses of great rivers in many places; hence our explorations on the Fraser, on the Yukon, on the Anadir. Such rivers furnish means of rapid transit in summer by canoe, and almost equally rapid transit in winter by sledging. Stations were to be erected at moderate intervals along the course of the line, and there was infinitely less to fear from Indian or other native depredations in Alaska and eastern Siberia than on telegraph routes which are already open in the United States. Furthermore, it has been found that in lines passing through an Alpine district, notably in those crossing the Sierra Nevada range, California, Nevada, etc., the poles, once firmly planted, remained in better order than those crossing countries enjoying a warmer climate.

"2. With regard to the cable across Bering strait, it was urged that icebergs would infallibly ground on it and cut it up. The answer to this is direct; icebergs, properly so called, are never seen in Bering sea or strait. The prevailing currents set strongly into the Arctic ocean—not from it. Floating ice, in deep packs, is, of course, abundant in the early summer; and for this reason, Colonel Bulkley, after a detailed examination, selected for the cable landings the deepest and most protected harbors he could discover. Port Clarence was selected for the American side. It has a good entrance, ten fathoms of waters, and a mud bottom. On the Asiatic side, Pentigu gulf, or Aboleschef bay, Seniavine straits was selected, for similar advantages. St Lawrence and Mechigme bay were considered too exposed. A part of the numerous soundings, taken by members of our expedition in Bering sea, have been already recorded. The moderate depth of the whole sea, and its soft bottom, seem points in favor of the proposed cable crossing. A late Victoria, V. I., newspaper states that the telegraph line already constructed from New Westminster to the town at the mouth of Quesnelle river, which was the first section of our overland telegraph, is to be extended to Cariboo. Those inaccessible mines, which seemed, a few years ago, as isolated from civilization as is Spitzbergen, will then be in direct communication with San Francisco, New York, and Europe. The real obstacle in the way of our enterprise, especially in British Columbia and the larger part of Alaska, was the existence of densely timbered ground, where, in wintry storms, or by the process of natural decay, the tress might be expected to fall on the telegraph line. To obviate this, it became necessary to clear a wide track on either side of the line—a work necessarily of some expense. But no part of the proposed line passed through a worse country, in that respect, than the first portion already constructed to the mouth of Quesnelle; and, as it has been since kept in good working order, the objection is not a fatal one. It has been proposed to extend the same line to Sitka."

From what has been stated, it is sufficiently apparent that the building of a railroad by way of Alaska, Bering strait, and northeastern Siberia, connecting with the Canadian Pacific in British Columbia, and in Siberia with the Russian line now being pushed forward to Vladivostok, is by no means an impracticable and perhaps not a very difficult undertaking. Other railways have been built, and are now returning an ample revenue, of which it was said that first of all their construction was impossible, and second, that if constructed they could never be made to pay. Among them are the Central and Union Pacific, whose route lies for the most part through a mountainous and desert region, so that of the land grant of the former nine acres out of ten are valueless. In Australia, also a line is now being built from Port Augusta to Port Darwin, a distance of about two thousand miles, through a country as barren as any that can be found on the face of the earth; but that line will connect the Indian and Southern oceans, diverting the course of traffic on the Australian continent.

On the portion of the route to which reference is made for the proposed Cosmopolitan Railroad, there are no such engineering obstacles as were encountered by the Central Pacific in crossing the Sierra Nevada, or by the Canadian Pacific in crossing the Cascade range. Compared with the obstructions encountered by either, the bridging of Bering strait by way of the Diomede islands, which lie almost midway in its narrowest part, is by no means a difficult achievement. In Alaska the route lies for the most part across a level plain, and in Siberia, skirting the eastern base of the Stanovoi mountains, will avoid the tundras that lie between them and the ocean.

In Alaska, as is now well ascertained, there are forests of most valuable timber; there are veins of coal and other minerals, including deposits of gold whose richness and extent are as yet unknown; her fisheries, and land and pelagic peltry exceed in value those of any country in the world, with at least a dozen salmon canneries already in operation, and a catch of thousands of tons a year of cod and other food fish. But as to the resources of Alaska and northeastern Siberia, and also as to their needs, further mention will be made in later chapters of this work.

CHAPTER II

THE POLITICAL ASPECT

The question whether the government shall own and operate the railroads, or the railroads own and operate the government, is one that in these United States still remains to be settled. It is self-evident that a political body cannot conduct business as economically, not to say as efficiently, as an individual, or as a corporate body; and yet no one would have the postal system, or the coast survey, or the collection of the revenue in the hands of private individuals, or of companies. If the post-office does not pay expenses, the people will cheerfully make good the difference, in view of superior service and the reduced rates of postage.

And so in regard to railway, telegraph, and express lines, or any widely extended enterprises with intricate ramifications affecting every individual of the body politic, the people feel safer in the hands of the government, of which they are each a component part, than of individuals seeking alone their own good. If they must have a master, even though it costs them more, they would prefer to select one for themselves in the form of delegated authority to a representative government, rather than place their necks under the iron heel of a soulless and impersonal corporation, or of grasping and unprincipled individuals.

But it would be difficult to prove that the creation and working of these great instruments and aids of progress would have cost the people more, during the past forty years, in the hands of the government than in the hands of those who have made their hundreds of millions by fraudulent contracts, by excessive charges, and by the employment, in every way they could conceive, of the money obtained from the people for extorting from the people yet more money.

It may be said that it is better even to be in the hands of manipulators, who, while laying upon the people the most outrageous burdens, are yet too shrewd to kill the goose that lays for them the golden eggs, than to be at the mercy of professional politicians, who have everything to gain and nothing to lose, who would sell not only their government and nation, but their own souls for money or place.

In answer to this, I may remark that I am a firm believer in the American people, and in the form of government which they have chosen for themselves; and that wherever they have issues at stake sufficiently great to command their attention, intelligent and energetic action is sure to follow. It is not demagogues, but the people, who declare war and fight for the honor and integrity of the republic. And in my opinion it would be better in this regard if the government had more of the vital interests of the people, both commercial and industrial, under its immediate supervision and control.

Reformation in various directions is demanded, aside from the enlargement of the scope and powers of the government, if we would have any real government; and there is probably nothing which would more thoroughly rouse the dormant energies and self-respect of the American people to a proper vindication of their rights, than to place yet larger moneyed interests under the management of the government. Thus they would be forced to take a more general part in politics, and in self-defence to govern themselves in fact, as they now do only in name.

Hear what Herbert Spencer says of us: "While the outside form of free government remains there has grown up within it a reality which makes government not free. The body of professional politicians, entering public life to get incomes, organizing their forces and developing their tactics, have, in fact, come to be a ruling class quite different from that which the constitution intended to secure; and a class having interests by no means identical with public interests. This worship of the appliances of liberty, in place of liberty itself, needs continually exposing. The possession of representatives is not itself a benefit. There is no intrinsic virtue in votes. These are but means to an end; and the end is the maintenance of those conditions under which each citizen may carry on his life without further hindrances from other citizens than are involved by their equal claims—is the securing to each citizen all such beneficial results of his activities as his activities naturally bring. The worth of the means must be measured by the degree in which this end is achieved. A citizen nominally having complete means, and but partially securing the end, is less free than another who uses incomplete means to more purpose."

For purposes of representative legislation the people transfer their rights of self-government to delegates, who in turn transfer their power to the still smaller number who administer the laws. Legislators and office-holders are too apt to forget that they are or should be but the mouth-piece or machine of those who placed them in their respective positions; for otherwise legislative government would be an oligarchy, and not a government by the people. These servants of the people are too apt to fancy themselves masters, so appointed as the reward of merit, and with the privilege of governing independently of their constituents, and enriching themselves by the shortest and surest methods that may be possible.

Fiscalism is the name by which certain European writers designate the organized systems of plundering the people, ostensibly for their benefit, but really for the benefit of the office-holders and their satellites. This robbery is supposed to be perpetrated within the pale of law; but there are many species of more direct swindling which sends the money at once from the pockets of the victims to those of the office-holder without legal circumlocution or subterfuge.

In truth, the real functions of government are few, and in all minor affairs, as in all moralities and religions and conventionalities, I am wholly in favor of *laisser faire*. The less legislation we have for the protection of special industries the better; some may be necessary, but too many laws are almost worse than none. There is, for instance, too much talk of state rights and women's rights, as if the rights of humanity were not one, whether male or female, federal or local.

The general government is a political agency whose main business is to secure citizens in their rights to life, liberty, and property, to preserve peace between the states, and protect the nation from foreign aggression. It is not intended as a controller of commercial, moral, or religious affairs, and has no right to influence or direct the business of the country, especially when affecting only individuals or limited classes of the community, and not affecting the whole. The government has no right to discriminate beyond a certain point in favor of one class of citizens and against another class; it has no right beyond a certain point to maintain a protective tariff, whereby the consumers of certain articles will be taxed not only to assist in supporting the government, but in paying manufacturers or producers more than they would otherwise obtain. Yet we know that protective tariffs, properly discriminating and properly regulated, are a benefit, and that occupation for the unemployed, and the undertaking of enterprises by the government too vast or too important to be intrusted to individuals, are for the good of all.

America has many thousands of miles of railway to build in the near future. Although our mileage already exceeds that of Europe, we need much more than Europe has. Before we have as many miles in proportion to area as Great Britain, there are some 300,000 miles more to be constructed, which at the rate of 6,000 miles a year, the estimate for 1890, will require half a century, provided the latter builds not another mile. And although we do not need as great a proportionate mileage as Great Britain, there is little danger of too much railroad building in the United States during the coming generation.

It is a simple and plain proposition, that Russia and the United States, each having broad uninhabited areas and limitless undeveloped resources, would, by the expenditure of two or three hundred millions apiece for a highway of the nations through their now waste places, add a hundred-fold to their wealth and power and influence. Nations which can spend in war their thousands of millions of money, and hundreds of thousands of lives—the lives of the best and bravest of their sons and citizens—can surely afford a little of their surplus wealth and energy for such a work as this.

It would indeed be a small matter for England alone to complete this road, to encircle the earth, and to no inconsiderable extent through her own territory. The Canadian Pacific, across America, is a very good beginning; add to this such Asiatic lines as come within the stretch, and the remainder could easily be built, and the cost added to the national debt, without greatly affecting the pockets of the English people.

But the United States cannot afford to have England own and control the central Cosmopoliton Railway. It would be a band tying together too strongly her several distant provinces, stringing them upon threads of steel in such a way that it would be difficult to sever them. I do not say that we want Canada; I am inclined to think not; but should it be so, England must never be allowed to continue the Canadian Pacific through Alaska. True, England does not care much for Canada, and possession of the Hudson's Bay territory is not essential to Threadneedle street;

for Canada is not, like India, a bulwark against Russian or other aggression. Canada does not give England the profitable commerce that Africa is expected to yield, and does not need the tender mother's nursing like Australia. Still, England takes some pride in the dominion, and might persuade herself that she really wanted it if the United States should manifest a similar desire.

But our own lines of transcontinental railway will answer every purpose, and terminate almost as near to Bering strait as the Canadian Pacific. Then we owe Alaska something, or the power that made Alaska, although we bought this wide strip of earth, greater in area than the thirteen original states of the union, for the merest trifle—seven million dollars for a property worth seventy times seven millions. Twenty-four years have already elapsed since we first assumed the responsibility of ownership, and since then what have we done? What improvement have we made upon the condition of life, the stolid, animal existence of the half-civilized Russians and Aleuts? None whatever. Our officials swear as loudly and drink as deeply as did the old Russian fur-governors, for such appear always to have been in that territory the fundamental principles of governing. Place Alaska on the line of a world-encircling railway, give her a special code of laws befitting her requirements, and men of enterprise and capital to develop her resources, and she would pay for the road five times over.

There is every reason to believe that Russia would hail the opening of her great eastern interior with joy. She would have everything to gain by it, and nothing to lose—wealth, power, prestige, all those influences and prerogatives which are coveted alike by nations and individuals. It would bring population, develop mines, and open vast areas to agriculture. It would reclaim the wilderness primeval, tame barbaric hordes, and enlighten and civilize the people. Since the time of Peter the Great, the ambition of

Russian rulers has been not only to extend their possessions, but to improve the condition of those who inhabit them.

"Nothing in our times," says Justin McCarthy, "has been more remarkable than the sudden growth of Russia. The rise of the United States is not so wonderful, for the men who made the United States were civilized men; men of our own race, who might be expected to make a way for themselves anywhere; and who were, moreover, put by destiny in possession of a vast and splendid continent, having all varieties of climate and limitless productiveness, and where they had no neighbors or rivals to molest them. But Russia was peopled by a race which, even down to our own times, remains in many respects little better than semi-barbarous; and she has enemies and obstacles on all sides. A few generations ago Russia was literally an inland state. She was shut up in the heart of eastern Europe as if in a prison. The genius, the craft, and the audacity of Peter the Great first broke the narrow bounds set to the Russia of his day, and extended her frontier to the sea. He was followed, after a reign or two, by a woman of genius, daring, unscrupulousness, and profligacy equal to his own—the greatest woman probably who ever sat on a throne, Elizabeth of England not even excepted. Catherine the Second so ably followed the example of Peter the Great, that she extended the Russian frontier in directions which he had not had opportunity to stretch to. By the time her reign was done Russia was one of the great powers of Europe, entitled to enter into negotiations on a footing of equality with the proudest states of the continent. Unlike Turkey, Russia had always showed a yearning after the latest developments of science and of civilization."

On the subject of an Asiatic railway an able writer remarks: "The greatest difficulty which the Russians experienced in their subjugation of the Turkomans was not the resistance of these warlike tribes, though that was brave and determined, but the necessity of carrying supplies over the almost foodless and waterless deserts of Turkestan. After a severe defeat in 1879, caused chiefly by the failure of the transport service, the command of the Russian army was given to the gallant young General Skobeleff. Profiting by his predecessor's experience, he determined to build a small temporary railroad from the Caspian, for carrying provisions and materials of war, instead of relying on camels.

"The building of the road was intrusted to General Annenkoff, the chief of the transport department of the Russian army, and work was begun in 1880. It was proposed then to carry the line only to Kizil Avarat, a town one hundred and forty-five miles from the sea; and in December 1881, the first locomotive steamed into that place. Meanwhile Skobeleff had finished the campaign, and completely subdued the Turkomans by the capture of Geok Tepe.

"In 1885, the prospect of war with England over the Afghan frontier turned the attention of the Russians again to the railway, and General Annenkoff was sent out to extend it southward. The crisis was soon passed, but by this time the plans of the tzar and his ministers had changed. Instead of a purely military road, it was determined to build a permanent highway for commerce, which should also be the means of consolidating the Russian dominions in central Asia.

"With this end in view the work was pushed with extraordinary vigor. The roadway, a low earthwork or embankment raised slightly above the plain, was constructed entirely by native workmen—Turkomans, Persians, and laterally Bokhariots. Their wages at first were eight cents, but afterward sixteen cents, a day. The Turkomans were the best workmen, the Persians the worst, being incorrigibly lazy, though strong as oxen. After them came the track-layers, all soldiers of the Russian railway battalions, each from a thousand to fifteen hundred men strong. The men lived in construction-trains, consisting of two-story cars, which contained, beside sleeping-quarters, kitchens, hospitals, workshops, telegraph stations, as well as a chapel and a school. A battalion was divided into two brigades, each of which worked six hours a day. Supplies were brought twice a day over a narrow-gauge railway alongside the other. These soldiers sometimes laid and spiked nearly four miles of rails a day, though their average was only about two miles. Others raised palisades at places exposed to the winds, to guard against the drifting sands, while still others planted tamarisk, wild oats, and the saxaoul along the line, that their roots might bind the sand. These desert plants were started in nurseries, made for this purpose in the neighboring Persian mountains.

"Although every piece of timber, iron, and steel, including even more than two million wooden sleepers, came from Russia, being brought down the Volga and across the Caspian, yet the work advanced rapidly. On May 27, 1888, the first train entered Samarkand, nearly nine hundred miles from the Caspian. The whole cost of the road was relatively very small—only about twenty million dollars. When Mr Curzon, an English member of parliament, from whose account we have derived most of these facts, travelled over it, regular trains ran daily from the Caspian to the Oxus, and from thence twice a week to Samarkand; the fare was eighteen dollars, and the running time seventy-two hours."

In a paper read before the Manchester geographical society, in December 1888, are the following pertinent remarks, which I quote here in full, though not entirely devoted to the political phase of the subject:

"The question of a rail connection of the Baltic with the Pacific ocean through Russia and Siberia has frequently been discussed, and recently steps have been taken to carry out part of this great enterprise. Political as well as economic reasons make the establishment of a better connection between Siberia and Russia appear very desirable. The remoteness of the Amoor province from the mother country makes the security of this possession appear doubtful, and the immense distance of Siberia from any market renders its produce almost valueless.

"The experience of American railroads shows that there is no better means of developing the productive capacity of a country than by the establishment of railroads. Siberia is capable of becoming a highly productive country, and the limits of its productiveness can hardly be conceived. The history of the settlement of the American and Canadian northwest territories shows that an excessively continental climate is not a serious drawback to the development of a country. Southern Siberia has great agricultural resources; large tracts of land are well adapted for stock-raising, and its forests and mineral resources are of great value. While precious metals yield even now a considerable income, its rich coal and iron deposits have hardly been explored. The abundant supply of furs and fish needs only to be mentioned. At present a large portion of the grain grown in this country is used for distilling alcohol, as there is no market for it.

"The only thing needed is better means of communication. The large rivers of Siberia, which flow into the Arctic ocean, are not available for this purpose, as their mouths cannot be reached regularly from Europe, and as they are frozen during the greater part of the year. Numerous attempts have been made to ascertain the feasibility of a regular intercourse between the Atlantic ports and the mouths of the Siberian rivers, and, from the experience of Captain Wiggins, it would seem that the route is not so impracticable as it appeared to be. He succeeded eleven times in making the journey from England to the mouth of the Yenisei, and up to Krasnoyarsk, and proved that this trade may become of some importance, although the difficulties are so formidable that only the remoteness of central Siberia makes its use practicable. Another project of making the great rivers of Siberia more useful is that of a railroad from the Obi to a point west of the strait of Kara. Although this plan might help to develop to a certain extent the resources of western Siberia, it would hardly prove adequate to opening the most productive parts of this vast country.

"In summer the rivers afford a good means of intercourse, and plans have been made to improve them. The most important of them is the connection of the Obi and Yenisei by means of a canal, work on which is in progress. When this canal is completed, the following line will be open to commerce: from Tyumen, the terminus of the Perm-Tyumen railroad, down to Tobolsk, and following the Irtish, vessels will reach the Obi at Samarovsk. From here they will ascend the latter to the point where it approaches nearest to the Yenisei. Following the canal, they will reach the Yenisei, which is descended down to the confluence of the upper Tunguska, which comes from Lake Baikal. In east Siberia the Amoor affords good means of communication. The route follows the Chilka, and its tributary, the Ingoda, as far as Chita. The distance between this point and Lake Baikal is not very long.

"It seems that it has been decided to build first those portions of the Pacific railroad which will supplement those sections which are open to river navigation. This requires the building of the sections from Vladivostok to the mouth of the Usuri, from Chita to the Selenga, and from Irkutsk to Tomsk. The last is necessary, as the upper Tunguska would require very expensive regulation. Should these works be completed, and reasonably fast-going steamers be put upon the rivers, the development of Siberia will receive a strong stimulus.

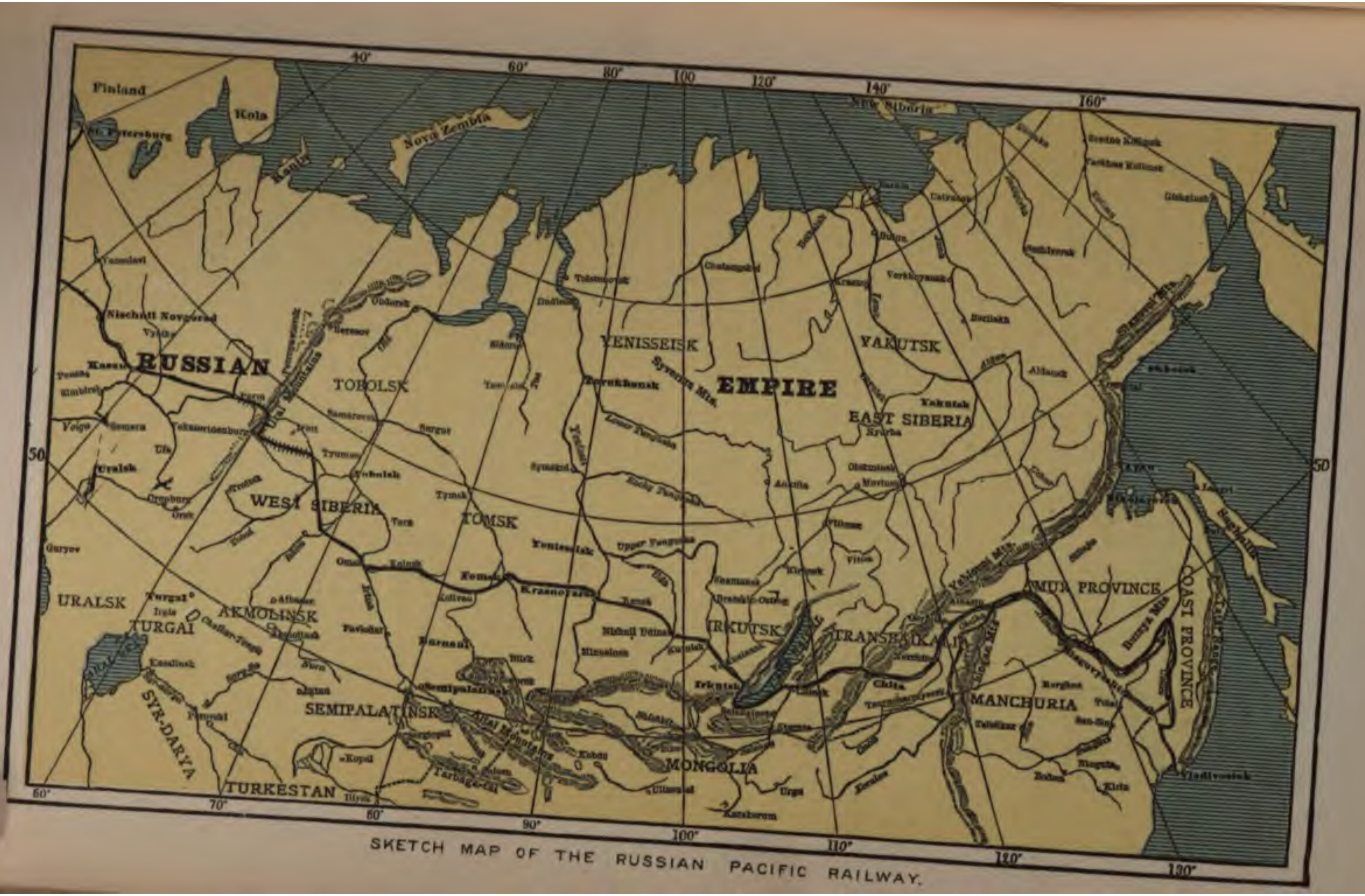
"The effect of this improved inland connection upon the development of manufactures and industries will be great. At present eighty per cent of the total manufactures of Siberia belong to the territories Tobolsk and Tomsk. According to the reports of the bureau of statistics, there are 2,300 factories, which employ 12,500 men, and produce 14,000,000 rubles' worth of goods annually. The principal manufactures are those which use raw animal material; 500 tanneries produce goods valued at 3,000,000 rubles, and 150 tallow factories have an annual output of 2,000,000 rubles in value. Next in importance are manufactures based on raw vegetable material. The rich mineral deposits of Siberia are not yet opened to any great extent. The industrial development of this region does not date back farther than about fifteen years. It was only then that modern machinery was introduced; and the subsequent improvement in the quality of Siberian manufactures has secured for them an extensive sale in Asia. The slow progress of these manufactures will be greatly accelerated as soon as cheaper and more rapid communication with Europe has become possible. One of the principal considerations which recommends the construction of the Siberian Pacific railroad is the remoteness and isolation of the Amoor and coast provinces. At present there exist hardly any roads in this region. Communication is possible only on rivers which are navigable in spring and autumn, while in summer and winter intercourse is interrupted. In winter, sledges are used for travelling, while it is impossible to transport freight. What little trade there is, is almost exclusively in the hands of Americans and Chinese. The whole Russian population of Transbaikalia, the Amoor province, and the coast province, amounts at present to twenty thousand, while immigration from Manchuria is of considerable importance; therefore the

Russian government attempts to promote the Russian colonization of this region. The country is rich, but it is too remote to become a Russian colony until better communication with Transbaikalia has been established.

"It must not be expected that, even after the completion of the road, the settlement of Siberia will make as rapid strides as that of the American northwest. It is true the Russian peasant is inclined to leave his home, and to look for a more prosperous life east of the Urals; but it must be remembered that no foreign immigration is possible, or would be allowed, the political aims of the Russian empire being to Russianize the whole of its territory. As European Russia is not very populous compared to its area, a Siberian emigration will retard its progress in many respects, as its effect will be to produce a lack of the workers necessary to develop its resources.

"The proposed railway, if completed, will be of importance not only for the development of the resources of Siberia, but also for the eastern trade. At present a considerable amount of Chinese goods, among which tea is the most important, is sent overland. The cost of transportation is, of course, enormous, and will be greatly cheapened by the railroad. The present state of this trade may be seen from the following data given by the commissioner of Chinese customs at Tientsin. In 1887 this trade increased by 5,400,000 pounds, or nearly half as much again as in the year before; while the quantity of brick tea carried by the same route increased 7,300,000 pounds. This remarkable growth of the overland tea trade was due to the unusual luxuriance of the Mongolian pastures, which, providing as they do the only sustenance for the enormous herds of dromedaries almost exclusively used as beasts of burden in these regions, exercise a very great influence on the prosperity of this branch of trade. It was owing to the failure of the grass crop in 1885 that the transport of tea by that route fell so low, great numbers of dromedaries having died of starvation. The uncertainty of the grass supply, and consequently of the means of transport, has led some Russian merchants to project a Decanville portable railway across the plains of Mongolia from Kalgan to Urga. The motive power would still be supplied by camels; but, whereas fifty thousand of these animals are now employed, it is calculated that ten thousand would only be required to do the same work on the railway, and that with these increased facilities the trade would in all probability be doubled. As in case of failure of the grass supply a sufficient quantity could easily be brought from Siberia by the returning trains, the additional advantage would be gained of more certainty in the means of transport. The carriage of the tea over the mountainous district between Urga and Kiachta would still be effected by camels. An alternative scheme is a railway from Stretinsk to Veringukunsk, on the Amoor. A fleet of seventy steamers is running on the Amoor, and goods can be conveyed from Veringukunsk to Kiachta by one of the affluents of the Selenga river. Russian steamers would convey the tea from Hankow to the Amoor. This route would be entirely under the control of Russia. It would bring the whole profits of the trade into Russian hands, and offer greater financial facilities. This route, although more expensive than the transport by sea through the Suez canal, is preferred, as the quality of the tea thus transported is better.

"One of the important considerations which induce the Russians to urge the building of the Pacific road is purely political. The Chinese boundary is at present almost unprotected, and it would be extremely difficult to concentrate an army of considerable strength anywhere east of Semipalatinsk. It is true that the boundary as far east as Manchuria is guarded by the best of protections—a vast desert. Still greater weight is attributed to the connection with Vladivos-



SKETCH MAP OF THE RUSSIAN PACIFIC RAILWAY.

tok, the only harbor Russia possesses on the open ocean. Without the railroad, Vladivostok is of very little value, as the coast province is not able to furnish provisions for the garrison and fleet. It is hoped that its value will be greatly enhanced by the construction of the railway. A glance at the map will show that the latter follows for a long distance the boundary; therefore, in case of war with China, its safety appears very doubtful; and indeed, it has been proposed by military authorities that it would be more advisable to build the road farther north. From an engineering point of view, there are no serious obstacles to the building of the road, except the bridging of the large rivers of west Siberia, and the passing of the enormous swamps of that region, which would probably make the road far more costly than the transcaspian railway. There are no steep grades that would present serious difficulties. The distances of the several sections of the line are given as follows:

Tyumen to Tomsk	800 miles.
Tomsk to Irkutsk	1,050 miles.
Irkutsk to Stryelka	800 miles.
Stryelka to Usuri	1,000 miles.
Usuri to Vladivostok	300 miles.
Total	3,950 miles.

"The cost of construction is estimated at from five to seven hundred million rubles. The whole distance from St Petersburg to Vladivostok is estimated at six thousand miles; and the time necessary for accomplishing this distance at from sixteen to seventeen days. To this must be added a few days for the journey from Japan and China to Vladivostok, and from St Petersburg to western Europe. Thus the journey from eastern Asia to Europe might be made in from twenty to twenty-two days, instead of from thirty to thirty-five days, which it takes steamers to run from China to England.

"It seems improbable that the effect of this road upon the trade of the world will be as important as that of the American Pacific roads. The political condition of Siberia is not favorable to an energetic development of its resources and to an extensive immigration; and the length of the road being so great, it is doubtful whether it would be able to divert the carrying trade to any great extent from the steamers using the Suez canal route."

In conclusion, it may be stated that in most European countries the railroads were built entirely or in part at government expense, and are either wholly or partially under government control. In Russia, whose railroad policy has been dictated by military, rather than commercial and industrial, considerations, at least one half the capital has been furnished by the state. In France, while few of the roads are under government control, the republic has agreed to refund to the leading companies, after a certain term of years, the amount expended for construction and equipment, and meanwhile guarantees a dividend of not less than seven per cent a year. In Germany and Belguim, except for a few hundred miles, the entire system is in the hands of the state, amd in both these countries the roads are admirably managed, and the freights and fares about the lowest in Europe. In Austria and Sweden about one third, and in Denmark and Norway more than one half, of the railways are under government control. In Italy the various lines are leased by the state to private companies, the former receiving a fair percentage of the gross receipts. In Great Britain and Ireland all the railroads are in the hands of private corporations; but in the British colonies and possessions they are mainly under state control. In India the government guaranteed to two great companies, for a term of ninety-nine years, an annual dividend of four and a half to five per cent for the building of lines in Bengal and Bombay. In England and other European countries the stock and bonds of these roads are now esteemed as among the safest and most profitable investments in the world. In the two wealthiest and most populous of the Australian colonies, Victoria and New South Wales, all the railroads were built and are owned by the government, and though running through a sparsely populated region, and one by no means rich in resources, return a small profit after paying their operating expenses.

In the various systems of the United States there are more than 150,000 miles of road, or more than one half of the total mileage of the world, affording the means of transportation to over 60,000,000 of people. On the rights and property of each individual among all these millions the railway companies have a certain influence, both direct and indirect, and one as intimate as it is extensive. In California, for instance, there are sections where the value of land has been increased from five to fifty fold by the advent of the railroad; there are others where the growth of commerce and manufactures has been retarded by excessive fares and freights; and there are still others where the development of agriculture, and especially of fruit-raising, has been checked by extortionate rates. The question of consolidating all railroad power under government ownership it is not my purpose here to discuss; but judging from the experience of European countries, such a measure would be of unquestionable benefit, for there the government lines are not only the most economically worked, but in many instances the most profitable. Certain it is that if the Central and Union Pacific had been built at the expense of the nation, a vast saving would have been effected, not only in its enormous subsidies of bonds and lands, but in the cost of government transportation, of itself a very considerable source of revenue. In considering the financial aspect of my plan for a Cosmopolitan Railroad, some further remarks may be made in this connection.

CHAPTER III

THE SOCIAL ASPECT

It is not enough to show that mankind will be greatly benefited by a Cosmopolitan Railway; that a marked improvement the world over will be the proximate effect, while the ultimate result will be intellectual elevation, material development, and a higher scale of civilization. We are so accustomed to rapid progress that we look for nothing else under the present dispensation, and if a measure would not aid and elevate the race, why adopt it?

The truth is, that this world's highway will so bring together and intermingle all the peoples of the earth as ultimately in a great measure to obliterate race distinctions and bring about a universal brotherhood of man. It will tend to discourage war, and those systems of wrong and injustice which the most Christian nations have indulged in from the beginning. It will be to modern exclusiveness what the crusades were to human ignorance and human wrongs during the dark ages.

We sometimes divide the human race for purposes of convenience into two general classes, savage and civilized. These, however, are relative and not absolute terms. Absolute savagism could only be where the naked wild man had never yet fashioned a tool to help him in obtaining food or covering. Absolute civilization can never exist, as civilization is a progressive and not a fixed condition.

It is necessary, nevertheless, to have words distinguishing to some extent the relative stages of progress. Thus the people of Europe are called civilized, those of Africa savages. The occupants of the tropical table-lands of America were civilized, as compared with the natives of all other parts of the continent; while eastern Asia is called half-civilized, though further advanced in some respects than the so-called civilizations of aboriginal America.

Some ethnologists draw the dividing line between savagism and civilization at one point and some at another. From the nature of the case no arbitrary rule can be laid down. In general, we may say, however, that those nations which cultivate the soil, domesticate animals for their use, and employ written characters for the conveyance of ideas are civilized, while those who do not are savages.

In regard to the aborigines on either side of Bering strait, there has always been intercourse between them—crossing and recrossing, sometimes on the ice and sometimes in boats. They are all called Eskimos, and encircle the earth in its extreme northern latitudes; they are a people to themselves, different from the American Indian, as well as from any Asiatic aboriginal.

The Eskimos who skirt the shore of the Arctic ocean from the Mackenzie river to Kotzebue sound are commonly called the western Eskimos; the Koniagas, or southern Eskimos, border on Bering sea, and extend from Norton sound to the mouth of Copper river. On the Asiatic side of Bering strait, the same people are called Tschuktschi. Throughout this region the land is thinly peopled; food is abundant; for clothing fur-bearing animals are killed and stripped; and in their partially underground dwellings they suffer but little from cold.

The Siberian intermixture of Russian and native is but a grade above the latter. In all the relations of life they approach nearer the savage than the civilized, although slavery, such as that of the Russian serfs, is no part of savagism. Ignorance and superstition are complete, and the customs and habits of the common people are lower than those of any corresponding class in Europe.

But it is not of such poor humanity as this that I am called upon here to speak. Although it is to be hoped that the condition of the aborigines of America—those of them who survive—and of the hordes of Siberia will be improved, it is the higher classes of more distant peoples who will feel most palpably the pulsations of progress. If a railway joining all the railways of the world has any significance for the welfare and progress of mankind, then it must affect in a greater or less degree all the social problems of the day.

And first of all as to the Chinese problem, which has so long vexed the citizens of the United States, and especially those of California. It would seem almost impossible to make any comparison with a land where, as a well-known writer remarks, "the roses have no fragrance, and the women no petticoats; where the laborer has no sabbath, and the magistrate no sense of honor; where the place of honor is in the left hand, and the seat of intellect is in the stomach." Nevertheless, we find here a people of nearly 400,000,000 souls, with institutions, laws, and an established government antedating by many centuries the historic period of the oldest European nations. These laws and institutions they have expanded and adapted to the growth of their population and their social requirements. Long before the sciences were known to us they were utilized in China, and from their methods of agriculture and horticulture many admirable features have been adopted. Among them the elements of education are more widely spread than in any other country in the world, not only as the passport to official rank, but through their respect for a literature which they regard as the perfection of all human knowledge. If in foreign lands they live apart as a separate and exclusive people, it is not so in their own, where, under the patriarchal system, there is much of happy domestic life, much that our own households might do well to imitate.

What is to be the ultimate destiny of this country, with its seaboard already so crowded that many thousands of the city population live in boats, gathering, as best they can, a scanty livelihood on the adjacent rivers and lakes? They are certainly not wanted in America, where they underbid the workman in almost every branch of industry; for their diet is of the poorest, their clothing of the cheapest, and with their crowded dwellings, the item of rent is almost inappreciable. But they cannot remain where they are, with starvation ever at their door, and without the faintest prospect of bettering their condition. The only apparent remedy is to spread the surplus population either among their own less crowded provinces, or throughout the unpeopled wastes of Siberia, and this will doubtless be accomplished when to the system of railways now being built throughout the length and breadth of China is added the Cosmopolitan Railway.

But in central and northern Asia the dominant power is Russia, one whose main object, like that of England, has ever been to extend her dominions. Toward the west this is no longer possible, for there she is held in check by the strongest military nations of Europe. Eastward to the countries bordering on her own, and southward to the fertile plains of India, she must look for the extension of her domain.

For some time past, Russia, England, France, and the Netherlands, each in its own interests, but to a certain extent in a common cause, have been at work in the endeavor to open the continent of Asia to European culture and traffic by means of an extended system of railways. Both England and Russia are alive to the fact that this is not alone a test of capital, but that it is to decide as well their political influence and power throughout this continent.

In India, England has a widely extended railway system, which spreads over the peninsula from Lahore in the north to Cape Comorin in the south, and from Calcutta in the east to Hyderabad in the west, bringing the natural and acquired products of this richly endowed area to her ports. Says a writer on this subject:

"Hitherto India has been shut in on all sides within her own railway network; for neither on the west towards Persia and Russia, nor on the east towards French Indo-China, had the Anglo-Indian lines any connection; while at the north the heaven-sweeping Himalayas offered a natural barrier against every intruder. But in a very few years all this will be changed, for other European powers, as Russia and France at present, will purposely push their lines close up to the borders of the British possessions.

"If we now turn to survey the railway projects of Russia in Asia, we must admit that these projects are bold and vast in their design, and most important in their commercial no less than in their strategical significance. The Russo-Asiatic Pacific line, already begun, is to run from the Black sea through Bokhara and Turkestan right up to Siberia. It will then bend eastward and girdle the Chinese empire with a belt of steel rails, and eventually be continued even to Corea. Thus it will almost traverse the whole vast Asiatic Russia. At present the line begins at Batum, on the Black sea, runs by Tiflis to Baku; starts again beyond the Caspian at Usun-Ada, running via Askabad, Merv, and Bokhara to Samarcand. From this place the extension of the Pacific line is to go on the one hand via Tashkend to Tomsk, on the other to Omsk, and at both places to join the Siberian Pacific line. The Perm-Pjumen line is already finished. Thence the main line is to continue via Omsk, Tomsk, Yakutsk, to Vladivostok. Here the railway is to have its junction for branches to Corea and China, while the transsiberian line itself is to be joined by a second line (Tashkend, Orenburg) to European

Russia. Already work is in progress southward from Merv and elsewhere for Teheran, for lines which will run close up to British India.

"France is busy in Indo-China at laying down a railway network, meant to unite Pegu in the west and Tenasserim in the south with China in the north; while a coast line is to run along the entire east coast of Indo-China and join all the seaports together.

"Still vaster and bolder are the projects of China, which are intended to cross the giant empire from south to north, and from the west to the shores of the China sea and Yellow sea.

"Of the islands, Java and Niphon (Japan) already possess extensive railways, whilst in this respect Ceylon is backward. In Japan, lines are being built with such activity that at no very distant date it will have a total length of nearly 1,200 miles. A line is being constructed in Sumatra, in order to bring the rich coal treasures of the Ombilin river down to the coast. Also one in Manila, to bring sugar and hemp to the seaports.

"This survey of the projected railways of Asia, some of which are already being carried out with great energy, makes it probable that Asia will very much sooner be opened to European trade and culture, even in its most remote parts, than the mere coast region of Africa can be won for civilization. This is easily explained. In Asia a civilization resting on a basis of remote antiquity has had, indeed, a long pause, but a certain civilization—although hitherto hermetically sealed up from European influence—has continued to exist. The ancient Asiatic colussus, in a certain sense, needed only to be awakened to new life, and European culture finds a basis there on which it can build for future reforms. It is quite different in Africa, where the European colonist finds the absence of civilization even on the coast, which must frighten him from following too eagerly his desires for the great natural treasures of the continent, before the savage has laid aside his uplifted axe or his drawn bow."

Russia is a comparatively new nation. We call her barbarous, and so by comparison she is, but not always to remain so. She is rapidly emerging from a primitive condition, and soon Siberia even will be relieved by railways of many of her savagisms.

It was only in the middle of the sixteenth century that the Russians, under Ivan Vassilievich the Terrible, freed themselves from the yoke of Tartar Khans. Yet now, as then, ignorance, superstition, and servitude are the normal condition of the people.

Says Bancroft in his *History of Alaska:* "The nation could scarcely be placed within the category of civilization. Progress was chained; if any sought to improve their lot, they dared not show their gains, lest their master should take them. And the people, thus long accustomed to abject servility and concealment, acquired the habit of dissimulation to a remarkable degree. There was no recognition of the rights of man, and little of natural morality. It was a pre-established and fundamental doctrine that the weaker were slaves of the stronger. In feudal times the main difference between the lowest class in Russia and in other parts of Europe was that the former were not bound to the soil. Their condition, however, was none the less abject; their slavery if possible was more complete. And what is not a little singular in following the progress of nations, Russia, about the beginning of the seventeenth century, introduced this custom of binding men to lands, just when the other states of Europe were abolishing it."

At the present time half the population of central Siberia are political or criminal exiles, mostly Russians and Poles, or members of government colonies. The exiles, the worst class in the mines, are made to work, some of the remainder being permitted to hunt and fish. The Samoieds and Ostiaks in the northwest live by hunting and fishing, while the Kirghiz and

Kalmucks of the south are a cattle-breeding people, some even working in iron and manufacturing gunpowder. From the Stanovoi mountains westward to the town of Irkutsk the inhabitants are of Tartar origin and live by hunting.

Amid a group of social phenomena the labor problem stands conspicuous. It materially affects the great body of mankind in its relation to food and clothing, manufactures and commerce, and industrial affairs in general. As sociological science is better understood, we see more and more clearly that what affects one affects all, that what is to the welfare of one is to the welfare of all. As in the vice of gambling the great immorality consists in the alleged benefit of one, which is indeed no benefit, to the detriment of another, so in our social economy one class cannot be injured without injury to all. As the material and moral welfare of the masses is advanced, so will be advanced the welfare of the upper stratum of society.

The millions of Asia are steeped in poverty and ignorance, ground down under the iron heel of despotism. History shows that there can be no great advance aside from an elevation of the masses, and that this advance is brought about by greater liberty and education, by fairly compensated labor, and a recognition of the rights of man.

The Cosmopolitan Railway will make of the whole world one community. It will reduce the separate nations to families of our great nation. Throughout the ages mankind have ever solemnly held to numberless absurd doctrines, and even out of these have come some truth; now there has arisen a species of make-believe speculation or theorization, which to say the least can hardly prove less profitable than the other.

In the science of economy we appear at length to be apprehending the difference between its several branches, as between political and industrial economy. Of the latter we may hope erelong to have the most striking illustration in the distribution of food by means of railroads to all the nations of the earth, in breaking down the barriers of exclusiveness, so that standing armies will be disbanded and wars will cease. As I have already remarked in my preface, science is divine, and economy is science revealed, rightly understood, and utilized.

Great as have been the improvements in travel during the past half-century, in regard to speed, safety, and comfort, this progress will continue until our present accommodations will seem as crude and ill-conditioned as now appear the old stage and steamboat methods.

With improved and enlarged facilities for travel, vast areas of territory will be opened up for settlement; new agricultural regions, coal-fields, mines, and manufacturing sites will afford occupation to the world's unemployed, and offer numberless fresh opportunities for advancement.

From extended intercommunication will arise a wider intercourse of human ideas, and as the result, logical and philosophical reciprocities, which will become the germs for innumerable new developments; for in the track of intercommunication, enterprise and invention invariably follow, and whatever facilitates one stimulates every other agency of progress.

All in due time there will be a world currency, world weights and measures, and world language and literature. Separate national distinctions of this kind will be obliterated by swift and universal intercommunication. Then every nation will enjoy as its own whatever is best for all. Already in art there is a free interchange of national models. Gradually the continental nations are absorbing what is best in English literature, while England receives in return more than she gives. France and America each have their realistic school, though of a widely different character. The study of modern languages has of late become so universal, the useless ancient tongues almost wholly giving way before them, that the transition to a world language will be all the more easy. Those who meet daily in common intercourse will have in due time all things in common. Art and belles-lettres, law and religion, philology and history, will all become one. There will be a general breaking up of ancient superstitions and conventionalisms, and a rearrangement under new forms and conditions.

With every revolution in methods of travel comes further advancement in the achievements of the human intellect. And as the intellect is still in its incipient stage, so are methods of travel and transportation. The whole realm of air is yet to be explored, and mankind will not be satisfied until aërial navigation becomes an accomplished fact. To stop improvement in this direction would be to stop the march of human progress.

But as one of the attendant evils of this progress, there have been spread among the body politic some of the most pernicious doctrines that ever disturbed the peace of mankind. Socialism, for instance, or that opposition to the present structure of society which advocates a redistribution of property, and organized coöperation instead of competition, is one of the many social relics of the French revolution. A hatred of arbitrary rule, and the wealthy and aristocratic element which lorded over and ground down the people, keeping them for the most part forever bound to poverty and drudgery since the days of feudalism, and the fierce desire of deliverance therefrom, brought about this outburst of passionate discontent. Nevertheless, some beneficial changes have grown out of this madness, and others are yet to come.

The absurdity of it all appears when we see labor and capital, which are not only natural but necessary allies, constantly maintaining toward each other the attitude of enemies. The capitalist can no more abolish the laborer than can the laborer the capitalist; and we may go still further, and say that whatever affects the true interest of the one class, for weal or woe, in like degree, if not in like manner, affects the other.

The new nationalism, which in America attempts to formulate politics and industries under public administration, though thus far only a dream of socialism, may in due time bring the forces of progress into new channels, with marvellous results. The tendency of evolution is toward socialism in one form or another. In coöperation the fittest seem best able to survive. This nationalism in America is evolved from the coöperation in socialism. Anarchistic reforms would arrest or at least control all competition, holding it firmly where it will enable every man to live and labor in his own way, and without restraint. If he coöperates, it must be voluntary, and with no desire to interfere with the coöperation of others.

In the struggle for self-emancipation, the individual and the nation gather strength and intelligence, until all the issues which have to be encountered and overcome prove each in its turn a stepping-stone to higher conditions. And when the summit is attained, there will be found written in letters of gold on man's highest monument *laissez faire*, which in its exercise in full perfection guarantees to every man the fullest liberty, the most absolute freedom of action—freedom from every form of superstition, from the last remnant of barbarism in law, religion, and society; freedom from every form of coercion, intellectual and social; and above all, freedom from any desire on the part of the individual to inflict his opinions and modes of conduct upon others.

If by living is signified learning and unfolding, then it is safe to say that mankind lives as much now in fifty years as during the time of the Roman empire and republic in five hundred. A century or two is ample, at the swift rate we are going, in which for a nation to rise and to fall, while at the same time solving hundreds of vital social problems never before confronted.

A great change is coming over the spirit of our republican dream. As we grow older and wiser, we talk less of our own greatness, and the inferiority of all other peoples and governments. Placing our institutions of to-day beside those which have withstood the ravages of thousands of years of human ignorance, superstition, and folly, there is perhaps less assurance than formerly in predictions of future achievements. In some respects we are ready to acknowledge ourselves on the decline, that the turning-point of progress and prosperity has been reached, and that we are going down on the other side. The wealth which brings enervating luxury, and was the curse of Rome, has come to us in a hundred instead of a thousand years.

Universal suffrage, whatever its defects in practice, is beneficent in theory. It elevates the nation, brings the people together as one man, and applies the principles of universal brotherhood to the various strata of society. It requires a high order of humanity to merit and enjoy universal suffrage—men of principle and patriotism, who are willing to make some sacrifice of time, money, and personal comfort for the public good. But it is simply a curse in the hands of imported voters, demagogues, professional politicians, and unprincipled millionaires, who bribe legislatures, and buy a seat in the senate as they do a box at the opera, merely for the gratification of their vanity.

From being democratic, America is rapidly becoming plutocratic. The country is ruled by rich men, through the low element brought from abroad to manipulate our free and filthy politics. But before Asia can have a ruling plutocracy, there must appear something of a social democracy as the basis of free government, wholly at variance with any oligarchy or despotism, but which will secure the highest industrial advantages to all. Yet the democratic and plutocratic periods passed, there may then appear a plutocratic oligarchy from which every form of competition is eliminated.

The Cosmopolitan Railway will bring all the world into coöperation, making the nations ripe to receive the new nationalism, at present possible only in America. Thus the United States will become Asia's schoolmaster, and may even teach Europe many a wholesome lesson. Yet before the ancient despotisms can be made to give place to the new nationalism, there must be the intermediate ages of political libertinism, monopoly, bossism, and bribery, and all the degradations of democracy that in our land appear to be inseparable from what men blindly believe to be the fullest freedom.

A railway, telegraph, and postal system through the heart of Asia will open the land of ancient and effete civilizations to floods of light from both directions, such as will in time effect a new creation. Old things will pass away. The coöperation of political despotisms, through fear of each other and for the further enslavement of all, will no longer be tolerated, but in its place we shall have the coöperation of intelligence and industry, of liberty and patriotic endeavor for the common good.

It is one of the functions of the railway, and perhaps its greatest function, to change the whole basis of civilization from the despotic and military to the progressive and industrial. The men and money required to maintain the armies of Europe are employed in the United States in the construction and maintenance of railroads, affording employment and support to nearly two millions of people, and indirectly to other millions. Without them the rebellion of the southern states could never have been entirely suppressed; but with their aid the federal system has been extended throughout the union, and standing armies have been forever abolished.

Even in Europe their effect is already perceptible, aiding the great struggle for political and industrial emancipation which will end only with the fall of dynasties and the triumph of the people's cause. In Ireland they have almost put an end to the tyranny of landlords; in England and on the continent they are exerting a similar influence; for while their people depended for food on the products of the soil, the owner of that soil could charge such rental as he pleased; but this he can no longer do while food is so cheaply produced and transported from the vast interior plains of America. "Were we not happier," ask the great landed proprietors, "when our fields were covered with golden harvests, than now when our wheat is brought to us from the prairies of Illinois and Iowa?" Doubtless the landlords were happier; but not so the laborer and mechanic, whose bread can now be purchased at about one half of its former cost.

With the riches of the great land-owners will vanish also their political supremacy, and from their hands the control of the affairs of state will pass, not, as they would have us believe, into those of the rabble, but to the merchants and manufacturers, the small farmers, tradesmen, and mechanics, constituting, as it were, an industrial and territorial democracy. Then in the disputes of nations will arbitration take the place of the sword; then will standing armies be disbanded, and their component elements added to the productive classes of the world; then in some modified form will the federal system here prevailing be extended to European countries, until at length the United States of Europe shall be one with the United States of America.

CHAPTER IV

THE FINANCIAL QUESTION

IT may be stated approximately that the entire capital invested in the railroads of the world is $25,000,000,000, of which more than one third was furnished by the United States. These figures will be the better appreciated when it is considered that the entire currency of the world, of all descriptions, in gold and silver, copper and nickel, and even in paper money, would not suffice to purchase one half of its railroads. In railroads are invested at least ten per cent of the aggregate wealth of all civilized nations, and probably thirty per cent of their surplus capital. In the bank of England the amount of bullion, coin, and notes on hand varies usually between $100,000,000 and $150,000,000; in the bank of France it is considerably larger; but add to these the entire banking capital of Europe and America, and the total will form but an insignificant item when compared with that which has been sunk in railroads.

Nor is it thus alone that their importance can be estimated as a factor in the world's industrial system. In many respects the vast improvements in the business methods of our day are due to cheaper, quicker, and wider facilities for transportation. Thus the merchant is enabled to forward his wares to distant markets with a promptitude and despatch unheard of in former days; while from a distance of thousands of miles communities can be as quickly supplied with the products of foreign climes. Promoting, as it does, the concentration of capital, the railway is of itself the most remarkable instance of that concentration; nor is there any branch of commerce or manufactures which does not in a measure owe to this agency the fulness of its development.

And now, in view of this enormous outlay, and considering the tremendous results that would surely follow, of what significance would be the investment of $200,000,000 or $300,000,000 on an enterprise that would band together all the railroad systems on the face of the earth? Accepting even the latter estimate of cost, it would represent only a little more than one per cent of that which has already been expended on the railroads of the world, and little more than three per cent of the total expenditure in the United States alone. For every dollar that is laid out on railroads, it is estimated that at least ten dollars is added to the sum of human wealth; and that this ratio would be largely increased by completing the chain which needs but a few more links to encircle the globe, is beyond the shadow of a doubt.

It would not be a difficult matter for the governments of the United States and Russia to issue say 4-40 bonds, and thus at once settle the financial question. During our civil war, not only did an army of volunteers, intelligent freemen of the brain and brawn of the land, come forward to fight their country's battles, but a large debt was created which must be met from resources wholly outside of any value received for the money; yet it was easily and cheerfully done. Here it is entirely different—a comparatively insignificant investment which would return a thousand per cent in actual wealth to the people.

The question of money for the purpose of connecting by rail and telegraph all the civilized and even the semi-civilized nations of the earth is one which ought not for a moment to stand in the way. That it should do so would be a reflection on the general intelligence of mankind, a reflection on the enterprise of the present age as compared with that of the Pharaohs. Let the world but for a day stop its senseless wranglings over political clap-trap, stop its wars and preparations for further human butcheries, and devote its intelligence and energy to this work, and it is done. It is a small matter how the money is raised, or by whom, so that it is forthcoming; only, as before remarked, the work, in my opinion, is better in the hands of the nations than under control of individuals; for of all species of tyranny, that which emanates from individual or corporate power is the worst.

And especially does this remark apply to the United States, where too often the directors of railroad corporations are more autocratic in their control than ever was the autocrat of all the Russias. Once elected, they have not the slightest regard for the interests of share-holders, adopting the most important measures without even consulting them, and presenting in their reports only such information as they desire to convey. In this secrecy lies one of the greatest evils of railroad management, for here is an organized system whereby the powers conferred by stockholders for their own benefit are used for dishonest and unlawful purposes. The dishonesty fostered by this secrecy is indeed an essential part of the system, a prime qualification for success in him who would win a foremost rank among the railroad manipulators of the day.

And now as to the question whether a Cosmopolitan Railway would pay its operating expenses and yield a fair return on the invested capital. First of all, it may be objected that much of its route would pass through a barren and uninhabited country; but so does that of the Central and Union Pacific, of the Southern Pacific, of the Canadian Pacific, and of most of the Australian lines, all of which have more than paid their expenses. Moreover, our American roads connect only the cities of the United States, whereas the Cosmopolitan Railway would connect the cities of the world, forming one unbroken chain between the capitals of Europe and the metropolitan centres of the United States, of Mexico, of Central and South America.

As to traffic, there is first of all the article of tea, of which many thousands of tons are annually shipped in the fastest of clippers to American and European ports. Here is an expensive and perishable commodity, one in universal demand, and on which, in relation to its value, the freight is an insignificant item. On account of the saving of time, apart from other reasons, much of the carrying trade in this and other Chinese products would fall into the hands of the Cosmopolitan Railway, connecting as it would with the Chinese system of railways now in course of construction.

Eastern Siberia is by no means so destitute of resources as is generally imagined, and it is due more to the lack of communication than to any other reason that her population is only one to every two square miles of surface. In all there are several millions of acres under cultivation, and in more than one of the provinces there is a surplus of grain for export. On her plains there are depastured some 1,200,000 head of horned cattle, and about the same number of sheep, with at least 1,000,000 horses. From the mines of eastern Siberia there were taken in 1882 more than 700,000 ounces of gold, with silver, lead, copper, coal, and other minerals. Of commerce, in its proper sense, there is virtually none in any part of Siberia, though manufactured goods are imported from Russia to the value of $70,000,000 or $80,000,000 a year, with about one third that volume of exports in the shape of raw material. In the northeast, trade is conducted at the fairs, where once or twice a year the people assemble to pay their tribute, to sell their furs, and to purchase food and hunting implements. In many sections the inhabitants depend for the necessaries of life on a few merchants, who, receiving and granting long terms of credit, demand the most exorbitant prices for their wares. Sugar, for instance, often sells at Yakutsk at from 30 to 40 rubles the *pud* of 32 pounds, or at the rate of 50 to 65 cents a pound, while the natives are only too ready to exchange their furs for whiskey or any form of alcoholic liquor. Here would seem to be an excellent opening for commerce, awaiting only the means of communication.

Of the resources of Alaska I have already spoken, with her wealth of timber, fur-bearing animals and fisheries, of coal and iron, and of gold. Of peltry alone the annual value is from $2,000,000 to $3,000,000, while on the rivers and inlets a number of salmon canneries are at work, making good a large portion of the deficiency caused by the gradual exhaustion of the Columbia and Sacramento river fisheries. At Douglas island, opposite the town of Harrisburg, is one of the largest gold mines in the world, with a ledge 450 feet in width, and as yet of unknown depth. In the valley of the Yukon and elsewhere in the territory, placer-mining has, within recent years, yielded better returns than any other section of the Pacific coast, and as yet these deposits of precious metal are almost untouched.

But it is neither on Siberia nor on Alaska that the Cosmopolitan Railway will depend for any considerable portion of its revenue. In the shipment of many kinds of raw and manufactured goods, it will largely supersede the ocean traffic of Great Britain, in whose hands is now the carrying trade of the world. It may be said that the distance will be too great to permit the hauling of any but the most expensive class of freight; but experience does not prove this; on the contrary, goods are being forwarded by rail from the Pacific coast to eastern markets, which a few years ago it was thought impossible to transport by the overland route. Grain and fruit, for instance, are shipped in enormous quantities a distance or 2,000 or 3,000 miles, at a cost representing from a third to one half of their value, and still return a fair profit to the producer. On all the great railroad systems of the old and new world the tendency is steadily and constantly toward a reduction of rates, due largely to the eager competition between railroads and ship-owners. Thus on the leading American lines which tap the rich traffic of the west, freights have been reduced from three or four cents a ton per mile in 1867 to less than one cent in 1890, with a smaller but still very considerable reduction in passenger fares.

Moreover, rates, on whatever class of goods, are by no means in proportion to the distance hauled, and that for several good and substantial reasons, among others because it costs just as much to load and unload a car that carries its freight a single mile as it does one that carries it a thousand. But no further argument is needed to show that goods should be transported cheaper for long than for short distances, between terminal than at intermediate stations, and between competitive points than between those where no competition exists. These are among the first principles of railroad economy, and such they will remain, notwithstanding all the interstate commerce laws and other measures that congress may enact. In considering, therefore, the question of distance, there are many points in favor of a Cosmopolitan Railway which may not appear on the surface.

Great assistance in financial matters will flow from the late silver legislation, which enables us not only to manufacture from our own products all the money required for our own use, but to sell money-making material at a fair price to other nations, and especially to Russia, whose metallic currency is almost entirely of silver. By fixing an amount of silver to be purchased monthly, almost equivalent to the entire product of the United States, relief is afforded to our own country, and an abundance of good currency guaranteed to our own people, without bringing upon us a flood of silver from Mexico or other foreign countries. Thus we have secured all the benefits of free coinage without the drawbacks incidental thereunto. A $100 certificate has behind it $100 worth of silver, purchased with $100 of lawful money of the United States, and not as formerly with $70 or $80. It is the purpose of the law, and so expressed, that these certificates shall be kept at par with gold in so far as may be possible. It is an inflation of the currency, but an inflation that is needed for legitimate uses and backed by legitimate values. The effect on general business can scarcely be otherwise than good. Silver may accummulate in the national treasury, but the government can well enough afford to carry it, particularly when for the most it gives in return paper promises to pay. Should the government ever be called upon to use its credit, or even money to obtain the gold necessary to keep the silver certificates at par with gold, it will be an expenditure well applied. But this will probably never be required, as there will be many ways and means whereby the government can prevent the depreciation of this branch of its currency without actual or indirect loss.

As to the line of route, the one by way of Alaska, Bering strait, and northeastern Siberia has already been outlined; but the following communication to the London *Morning Post* from D. Romanoff, lieutenant-colonel and chef des telegraphes, Siberie Orientale, though treating more especially on a proposed telegraph line, throws light on this aspect of Asiatic railroad building:

"The failure of the experiments in submarine telegraphic lines, and the consequent losses attendant on them, are of such a character that their causes deserve minute investigation. In addition to the incomplete examination of the depths and peculiarities of the seas and oceans, and the imperfect mechanical contrivances for that purpose, there are still far greater obstacles to be overcome to enable a complete examination to be made, and to establish telegraphic communication between the different parts of the globe, separated by vast oceans, impenetrable deserts, or barren wilds.

"Such an enterprise as that of connecting the old world with the new, and other parts of the globe, cannot be carried out without great loss of capital and other sacrifices; and even if successful for a time, through the application of some improved contrivance, it would always be very expensive to maintain it in perfect order. The unsuccessful projects of the Atlantic and Red sea cables, which have swallowed up nearly £2,000,000, and which enterprises are now considered by men capable of judging to be dead failures, yet are not so impracticable as many would seem to believe, provided that a different and safer plan than that hitherto pursued be followed; viz., for the former, the adoption of the route through Russia, where, passing up through the Bering straits (about 50 miles broad), the Aleutic islands seem to form the piers of a bridge, shaped out as it were by nature to connect the old with the new world.

"That the eastern route, via Russia, has already proved of great importance to Europe, is evidenced by the sensation that was excited in 1858 and 1860, when the papers received the telegraphic news, via Siberia and Russia, of peace having been concluded with China, and yet telegraphy in this part of the world is only in its infancy. It may also be added that the English and French ambassadors in China are now using that line for their correspondence, transmitting it from Pekin through Mongolia.

"Another fact may be mentioned bearing on this point; viz., that a telegraph company in England has offered several commercial houses in London to transmit their messages to and from the East Indies through Russia and China, via Pekin, which is considered a quicker route than the usual mode of communication, the East Indies being connected by steam navigation with the Chinese ports, which will now be extended from Shanghae to Tien-tsin, on the river Hai-he (Peiho). East Indian messages sent by this route are forwarded to Pekin; those from the latter place are handed over to the Russian post-office, and transmitted to Kiakhta, taking from 11 to 14 days; thence by courier to Kasan, and sent by telegraph thence to London; but as soon as the telegraph line, which this year will be completed to Omsk, shall reach Irkutsk (some time in 1862), European telegrams to or from Pekin will be transmitted in 14 days. Thus the universally important Siberian line will be a *fait accompli*, more particularly if it is carried through America. The Russo-American telegraph line will be constructed as follows: A line as far as Omsk, via the Ural mountains, will unite Europe with Asia this year, and the following year it will be extended to Irkutsk, so that in 1863 all the Russian ports will be connected through the sea of Japan, Nikolaevske, and the Amoor; and telegraphic communication from the Baltic to the Pacific will be finished in the year 1864.

"At the same time, i. e., during the year 1862, the North Americans will construct a line as far as San Francisco, through the scarcely penetrable deserts, wilds, and mountainous districts inhabited by the red Indians. Thus, in the year 1862–3, there will be two well-constructed telegraph lines, with two conducting wires on the two opposite shores of the Pacific; the one leading to the shores of the Baltic will bring the telegraphic news from New York, Boston, Canada, Philadelphia, New Orleans, and from all the northern states of the new world; and the other, from Castries and Vladivostok to Europe, will be connected with London, Paris, Lisbon, Rome, Algiers, Naples, Constantinople, and all the principal cities of the old world.

"Between these two telegraphic stations there is that large ocean, the Pacific (several thousand miles broad,) which towards the north becomes narrowed to about 50 miles, and forms the Bering straits. To this, the sole point of connection of the old with the new world, the attention of several scientific gentlemen has been drawn, who considered it practicable to construct a telegraph between the two shores, and many, amongst whom were Colonel Shaffner in the year 1854, Liger di Libessard in 1857, Slegh in 1859, and the American Collins in 1861, offered their services to the Russian government.

"But the impracticability of carrying out such a project arises from a fact with which these gentlemen were not acquainted; viz., the nature of the countries around Bering straits and the Bering sea, such as Tschukischy and the northwestern parts of America, through which aerial lines would have to be constructed. They are so wild, and covered with perpetual ice, that even the maintenance as well as the construction would be impossible, as no human being could exist there for any long period of time, and the length of the requisite line would of necessity require some intermediate stations. No notice need therefore be taken of a project to lay a line in this direction. But there is another direction, viz., in the southern part of the Bering straits, which almost seems to be pointed out by nature as the only link by which the old could be connected with the new world. This connecting link appears in the shape of small adjacent islands, called the Aleutic islands; and the line from Kamchatka to America, across these islands, would be about 1,600 miles long. The sea in this region is as broad as the Atlantic between Valentia, Ireland, and Trinity bay, Newfoundland, but with this difference, that instead of the great and constant breadth of the Atlantic, it is studded with large and small islands, separated by small bays, the largest of which, that of Copper island, is about 200 miles (350 versts) broad, the breadth of the others being as follows:

1	100 miles (175 versts).
1	70 miles (122½ versts).
3	50 miles (27½ versts).
1	30 miles (52½ versts).
8	20 miles (35 versts).
4	5 to 10 miles (8¾ to 17½ versts).
32	5 miles (8¾ versts).
30	1 mile (1¾ versts).
Total, 80 islands.	

"These islands are mostly extinguished volcanoes, mountainous, rocky, and woodless. Some of them are inhabited by Aleuts, and some are Russian and American dêpots. The sea in this part, with the exception of some of the bays, is never frozen over, but sometimes small pieces of thin ice, driving in from rivers, float there, and also sometimes real polar ice. Without entering into a topographical description of the climate, etc., there, this route may, under all circumstances, be considered as the best and safest for laying down submarine cables. Such a line can be constructed, either by connecting these islands by short submarine cables and aerial lines on the land, or without the latter, by selecting some suitable points (such as ports and inhabited places) through which a long submarine cable could be conducted. In the first place, such a line would consist of 770 miles of submarine cable, and 233 miles of aerial lines. Such a line would at first sight appear preferable, as the aerial lines interconnecting it would make it so much cheaper than if the whole length were cable, but there would result the following great inconveniences: 1. Owing to the Aleutic islands being destitute of wood, the erection of telegraph poles in the stony ground, and the replacing them in case they became rotten, would offer great difficulties in the construction of aerial lines; 2. The many shore-end cables which would be required, mostly exposed to deterioration, especially on the rocky shores there, and generally more expensive than the other parts of the cable, on account of the rocky beds between these islands, would be in danger of soon becoming useless; and 3. These shore-end cables would each necessitate a man to guard it; and by placing two men on each island, at least 100 men would be required, whilst at some places, water, much less food, can scarcely be found. From these causes we may safely conclude that a submarine cable all the way from Kamchatka to America, though in the first instance more expensive, would be more durable, and would bring the different cables to such shores where there is a safe port and anchoring place. The following points could be selected in the Aleutic islands for such a submarine line:

From Petropavlovsk in Kamchatka to

1.	A village in Bering island	580 versts.
2.	Port in the Copper island	150 versts.
3.	Port Tschaleskoi, at Atou island	445 versts.
4.	Port at Kiska island	300 versts.
5.	Port Constantine, at the Amschitka island	155 versts.
6.	Bay Slava Rosii, on the Tanaga island	238 versts.
7.	Bay Nassau, on the Tanaga island	149 versts.
8.	Village Nicolskoe, on Atka island	192 versts.
9.	Bay and village, Unmak island	470 versts.
10.	Village Iliuluk, Captain's Bay, Unalashka island	186 versts.
11.	Village Schischaldinskoe, Unimak island	293 versts.
12.	Village Morschevskoe, Aliaska island	124 versts.

Total, 3,282 versts, or 1,875 geographical miles.

"The submarine line would therefore connect Kamchatka with America, i. e., the old with the new world; but in order to completely encircle the world, it would have to be extended on one side as far as California, and on the other to the Amoor, where all the Russo-American lines meet. From the island Aliaska an aerial line could be erected as far as the Russo-American colonies; but in the other less populated countries, inhabited by wild and warlike tribes, the construction of such lines would be scarcely practicable, unless they could be properly protected. The same objection applies to the English colonies of the Hudson's Bay company, and further, also, to Oregon and California, and for the same reason it was found necessary by the Anglo-American company to construct a submarine in preference to an aerial line between San Francisco and Vancouver's island. Submarine cables can, in the same manner, be laid between Kamchatka and Aliaska, connecting the islands of Schumagin, Kadiak, and other small ones as far as the port of New Archangelsk or Sitka, and down to the island of Reine Charlotte. The length of this line would be 1,315 miles (2,300 versts), and it would be connected with the cable which is already laid between Vancouver and San Francisco, thus establishing a communication with all the telegraph lines of America. A submarine line between Kamchatka and the Amoor would therefore be also preferable to aerial lines, having the latter only when urgent necessity requires.

"There are four routes for such a line; viz., 1. Okhotsk; 2. Bolcherezk; 3. Saghalin; 4. Japan.

"1. With reference to the first route, it would be likewise necessary to connect this line by small sectional cables, as an aerial line along the shores of the sea of Okhotsk, as proposed by some engineers, would be impracticable, the country round the sea of Okhotsk being wild and uninhabitable. Starting from Nicolaevske on the Amoor, this line to Kamchatka would have to touch at the following points:

		Versts.
1.	The bay of St. Nicolai, in Ulbon (aerial line)	200
2.	The Chantar islands (submarine cable)	200
3.	Port Ajan (do.)	275
4.	Okhotsk (do.)	500
5.	Port Tauisk (do.)	425
6.	Cape Piaguine and Iamsk (do.)	500
7.	Tigel, in Kamchatka (do.)	175
8.	Nischne Kamchatka (aerial line)	425
	Total	2,700

"There would then only remain to be constructed a length of 275 versts, including 105 of aerial line, from the southern part of Kamchatka to Bering island. The submarine line from Kamchatka to America would therefore have to start from Cape Kamchatka and Nischne Kamchatka, and not from Petropavlovsk, but be connected with the latter by an aerial line of about 725 versts from Nischne Kamchatka. The line via Okhotsk would therefore be of the following length:

Submarine cable	2,075 versts, or	1,187 miles.
Aerial line	1,350 versts, or	771 miles.
Total	3,425 versts, or	1,958 miles.

2. Route via Bolcherezk.

		Versts.
1.	From Port de Castries to cape Lasareff (aerial line)	110
2.	Straits of Saghalin (submarine cable)	10
3.	Bay Nü, on the east shore of the island Saghalin (aerial line)	130
4.	Bolcherezk, in Kamchatka (submarine cable)	950
5.	Port Petropavlovsk (aerial line)	200

Total, 1,400 versts, or 800 miles.

"3. Route via Saghalin: In connection with an aerial line as far as cape Terpenia, a submarine cable of 550 versts (315 miles) would be laid to the Russian island Urup (Kurilian islands), and meet the line leading to Petropavlovsk. The length of this line would be 2,800 versts (1,600 miles), including an aerial line of 914 versts, or 1,200 miles.

"4. The route via Japan: From the bay St Olga to Port of Hakodate, on the Japanese island Matsmai.

"A submarine cable of 600 versts, or 350 miles, which, following up the line in the direction of the Kurilian islands as far as Port Petropavlovsk, in Kamchatka, would form a length of 2,500 versts, or 1,422 miles. The different length of the line by these four routes, taking Habarovska on the Amoor as a central point, would be as follows:

	Aerial line.	Cable line.	Total miles.
1. Via Okhotsk	1,272	1,186	2,458
2. Via Bolcherezk	622½	542½	1,171
3. Via Saghalin	914	1,057	1,971
4. Via Japan	402	1,428	1,830

"It will be observed that the first three routes pass through Russian territory; the last route, from Hakodate, along the Kurilian islands, Matsmai, Kunaschir, and Urup, which being Japanese possessions, it would, in a political point of view, appear inconvenient, but as regards commercial interests, it would prove advantageous, Hakodate being a port used by the whole European commerce. The route via Bolcherczk being the shortest and most convenient, and the depth and peculiarity of the sea of Okhotsk presenting no obstacle to laying a submarine cable, and passing through more inhabited countries, preference ought to be given to this route over the others, provided that no unforeseen impediment should present itself. The route via Okhotsk being much longer, and therefore more expensive, besides leading toward the north, where an aerial line of 200 miles would have to be constructed through a wild and uninhabited country, the erection of such a line would be impracticable. Although the route via Saghalin is more southerly, yet it is too long, more expensive than that via Bolcherezk, and likewise more inconvenient, as it leads through the wild steppes of the Kurilian islands, which are still uninhabited. However, this line appears to offer some advantages, as it could be connected with all the Russian frontier points in the Pacific, yet it would by no means supersede that via Bolcherezk, which would require the following lengths of cable:

	Versts.	Miles.
From the Amoor to Kamchatka	1,400	800
From Kamchatka to Aliaska in America	3,282	1,865
From Aliaska to Reine Charlotte island	2,300	1,315
Total	6,982	3,990

Or about 7,000 versts, or 4,670 English miles, or 1,000 German miles, or 4,000 nautical miles. Instead of the aerial lines through Saghalin and Kamchatka, underground lines would perhaps have to be substituted, owing to the wildness of that part of the country. These underground lines would therefore have to be considered as cable lines.

"The aerial line through Siberia, which the Russian government is at present constructing, leads to Japan and China, and offers the quickest communication with Europe. Messages from Japan can be sent to the Russian ports of Vladivostok and St Olga, which are situated in the sea of Japan, and thence telegraphed via Siberia to London and Paris and the whole of Europe. Messages from China, sent through the Russian post-office from Pekin to Kiakhta, can be telegraphed from the latter place to all parts of Europe. If the commercial interests of Europe should require it, a direct telegraph, either submarine or aerial, could be constructed to Japan and China, in connection with the Siberian line. A land line would have to be erected in the direction of Kiakhta.

"There are several routes from Kiakhta to China through the desert of Gobi, but the one which is at present used by the Russian post traffic would have to be chosen for the construction of a land line, forming a length of 1,775 versts (1,015 miles), though one half of this—viz., from Urga to Kalgan, a distance of about 1,285 versts (735 miles)—is a woodless, stony, and sandy tract of land, and only inhabited by nomadic Mongols, who relieve each other at the post stations; yet there would be no difficulty in constructing a telegraph line, as at certain places, where there are pasture grounds and water in abundance, stations could be erected for the men guarding the line. It would also be advisable to substitute iron for wooden poles in case one or more of the poles should in time become useless, as wood in this part of the country is very difficult to procure.

"However expensive such a land line would be, it deserves mature consideration whether the vastness of the commercial interests of Europe would not warrant such an outlay, as the want of wood for building purposes, the expense of supplying it, the erection of stations in the desert, and the supply of other necessaries, would increase the expense by 500 rubles (about £80) per verst, which would amount for the whole length of the 1,775 versts of land line to 900,000 rubles (3,250,000 fr., or £130,000).

"But as regards a submarine telegraph to China, the first connecting point with the Siberian line would have to be at Shanghae, the port most frequented by China-European commerce, from which place alone the messages transmitted to Europe would be so numerous that the expense of such a cable would in a short time be covered by the traffic. From Shanghae a branch aerial line to Pekin could be constructed, but the erection of such a line in the present disturbed political state of China would scarcely be practicable; and as regards the length of a submarine line thence to the shores of the bay of Petshelig, it would, according to the indication of the map (to which we can only refer), be about 1,100 versts (630 miles), the expense of which would be about 1,375,000 rubles.

"If, on investigation, it should be found that a submarine line in this direction offers no difficulty, the expense of the whole telegraph line from Kiakhta, in Siberia, to Shanghae, and thence to Pekin, would amount to 2,300,000 rubles (8,300,000 fr., or £330,-000). If, on the other hand, any political obstacle should prevent the carrying out of this line, it could be connected with the Russian ports at Shanghae.

"From the future telegraph termini of the Siberian line at the ports of St Olga or Novgorodsky, towards Shanghae, there are several small islands which could be used as resting-points for the cable, and as stations; they lie, besides, near Japan, so that a branch telegraph line would connect Japan with the main one. The length of this cable line between the Russian shores and the sea of Japan would be as follows:

From the port of Novgorodsky, Gulf d'Anville, to	
The island of Dagelet	300 miles.
The island of Tsussima	180 miles.
The island of Quelpart	180 miles.
The island of Shanghae	300 miles.
From the island of Tsussima to Nagasaki, in Japan	120 miles.
Total	1,080 miles.

1,200 nautical miles; 2,100 versts, which would cost about 2,500,000 rubles (9,000,000 fr., £360,000).

"The length of the whole line between Shanghae and London would therefore be: The length via Kiakhta, in Siberia, to Pekin, 12,000 versts, or 6,860 miles. The length via the sea of Japan and the islands of Tsussima or Quelpart, about 14,650 versts, or 8,370 miles. But as the telegraph line to the East Indies through the Mediterranean and the Red sea, as projected by the English, forms a length of about 19,000 versts, or 10,860 sea miles—viz., 4,000 miles more than that via Kiakhta, the latter being the same length as the line between the Amoor and the island Reine Charlotte—the same amount of capital as that expended on the East Indian line would suffice for the universal telegraph connecting the East Indies with Shanghae, and thus establishing a telegraphic communication between Europe, America, China, and Japan.

From the above we may conclude what material advantages would accrue from communication with the east via Russia.

"As the English can make no use of the Red sea cable, they propose now to construct aerial lines through the wild and barbarous countries of Asia Minor and Persia, and thence to Beloochistan and Afghanistan. Although the carrying out of such a project may be successful, yet the maintaining of such a line in a state of repair would be equally as expensive as difficult. But if a general telegraphic communication with the East Indies should crown such an undertaking with success, a glance at the map of Russia would convince one that the Russian telegraph line along the Caspian sea, Orenburg, and Omsk can very easily be extended to Teheran, the shores of Syr-Darja, and the sea of Issik-Kul, and that in case of any political misunderstanding, the short line between the Russian and Indian frontier stations could easily be destroyed. Russia, having no commercial relations with the East Indies, would gather no other advantage but the transit of messages from such a telegraphic communication. This route to the East Indies, which in every respect is a safer and better one than that through the wild steppes of Asia Minor and Persia, cannot be too strongly recommended."

In his journey through Siberia, more than thirty years ago, Major Collins, at that time commercial agent of the United States, could not fail even then to perceive the great advantages which would accrue from connecting by rail the great river Amoor with the rich mining and agricultural regions of Kiakhta and Irkutsk, and while at Chetah he had many conversations with Governor Korsackoff as to the resources of the country, and railroads, telegraphs, and steamboat navigation. With such a railway, and with steam on the rivers, a vast area unknown to civilization would be opened to the world. These thoughts revolving in his mind led to a proposal to the government, made through the governor of Trans-Baikal, to construct a railway from Chetah to Irkutsk. The proposition, which was duly forwarded to imperial headquarters, ran as follows:

"First. The right of way, with alternate sections of land, six versts deep by three versts long, on each side of the road, to be donated to the company.

"Second. The company to have the right to take from the government lands, free of charge, stone and other materials necessary for the construction of the road and its appurtenances.

"Third. The government of Russia to furnish the iron neeessary to the construction of the road from the imperial works in Trans-Baikal, at a stipulated price, which shall be reasonable, for which amount the government to become stockholders in the road.

"Fourth. All objects for the use of the government to be transported at reasonable and stipulated rates.

"Fifth. The stock of the company to be divided into shares of one hundred rubles each, and books of subscription to be opened in Siberia, where any person may be entitled to subscribe for any number of shares by paying ten per cent on the value of the stock subscribed for, and the remainder in five equal annual instalments of eighteen kopycks on the ruble.

"Sixth. If it be found impracticable to procure the necessary laborers in Siberia to construct the road, the company to have the right to import them upon contract from China or elsewhere to aid in its construction, the company to be responsible for their conduct; and if, upon the conclusion of the contract, the government is unwilling that they should remain in the country, the company to remove them.

"Seventh. If it should be practicable, and the government willing to furnish the necessary laborers from European Russia, then it may be done on the following conditions, viz.: The company will require twenty thousand effective men; within the first year after the conclusion of the contract the government must furnish five thousand, to be delivered to the company at Irkutsk, and the remaining fifteen thousand the year following; otherwise the sixth article to remain in full force. In removing the laborers from Russia, a man and his family to be counted as two persons. The cost of removing the laborers to be agreed upon at St Petersburg before the conclusion of the contract.

"Eighth. The government to have the right at any time, by guaranteeing seven per cent on the cost of the road, to purchase it, payable in twenty years.

"Ninth. The road and its appurtenances to be forever free from any tax or exaction of any nature on the part of the local authorities or of the imperial government.

"Tenth. When it shall occur that there may be minerals on any of the lands belonging to the company, then said company to have the right to work them, subject to the laws of the country; and in case the mineral lands are prohibited to be worked, then the company to be compensated in other lands of equal extent in other sections.

"Eleventh. In case the government cannot furnish all the iron required by the company, then said company to have the right to construct the necessary works upon such mineral lands as they may choose, in order to manufacture the deficiency after the completion of the road, the government to have the right to purchase the works erected by the company at a price to be agreed upon, at which time it shall also be adjusted what compensation the government shall receive for the use of the mines, which shall go towards the payment of the purchase of the company's works."

CHAPTER V

HISTORY OF RAILWAY CONSTRUCTION

WHILE there are men still living who witnessed the success of Stephenson's experiment, the actual inception of railroads dates back more than two centuries, to the time when tramways were built in the coal-bearing districts of England, connecting them with rivers or seaport towns. In 1676 these tramways consisted of timber rails laid from the coal mine to the nearest navigable water, and over them a one-horse cart could draw with ease four or five chaldrons of coal. Later, these wooden rails were fastened together with bars of iron, and of a similar compound of wood and iron the original track of the Baltimore and Ohio, and other railroads in the eastern United States, were built. It was not until late in the eighteenth century that cast iron became the material for rails, and not until 1789 that cast-iron chairs and sleepers were used, the rails being pinned or bolted into the chairs, and not until 1820 that the first wrought-iron rail was made and the invention patented.

The superiority over the highway road of the railroad, or as it was still called tram-road (probably an abbreviation of trammel road, on account of the flanges or trammels used to keep the wheels on the track), suggested its use for the conveyance of passengers and general merchandise. Thus in 1821 an act was passed by the British parliament for the construction of the Stockton and Darlington railway, and at this date several colliery railroads, worked by steam power, were already in operation. Although the act permitted the working of this line by men and horses, "or otherwise," animal power was used until a later act, the passage of which was mainly secured through the efforts of its engineer, George Stephenson, allowed the use of locomotive engines.

Of the difficulties which Stephenson encountered, the story has been a thousand times related. At that time the English were in some respects the most stolid and non-progressive of nations, clinging to time-worn usages and methods, and looking askance at new improvements, especially such as were thought to cause danger to life or limb. But to the trivial, and at times absurd, objections of the committee before which he was examined, he had always a ready and practical answer, as in the famous reply he made when asked, "What would you do, Mr Stephenson, in case that a cow should be caught straying across your track? Would not that be bad for your train?" "It would be bad for the coo," responded the engineer in his broad Caledonian dialect.

At length the great feat of the age was accomplished, when, on a September day in 1825, the first train passed over the rails from Stockton to Darlington, at the rate of from ten to fifteen miles an hour, with Stephenson as driver, and a signal-man riding on horseback in advance. It was a nondescript procession of vehicles, including all descriptions, from a tradesman's wagon to a family coach; but then it was that this Scotch engineer, who started in life as a cowherd, and who in his eighteenth year was still unable to read and write, had achieved a victory destined to subdue to civilization an infinitely vaster realm than was ever won by the conquests of a Cæsar or an Alexander.

A few weeks later the company decided to place on the line a passenger-coach, modelled somewhat after the old-fashioned English stage-coach, to carry six persons inside, and outside from fifteen to twenty; whereupon the following announcement appeared in the newspaper press: "Stockton and Darlington Railway. The Company's Coach called the Experiment." The trip was made in less than an hour; the fare was fixed at one shilling, and to each passenger was allowed, without extra charge, fourteen pounds of luggage. But the principal business of the road was the conveyance of minerals and merchandise, and its immediate effect was to reduce the freight on the former from fourteen to three cents a ton per mile, and on the latter from ten to two fifths of a cent, a reduction of from 73 to 95 per cent.

In the following year several other lines were opened, some of them worked by stationary and some by locomotive engines; but it was not until the opening of the Liverpool and Manchester railway, in 1829, that the public began to be aware of the revolution which was being made in modes of travel and communication. In 1890 this line, some thirty miles in length, formed part of a network of railroads, all under the ownership of a single company, nearly 2,000 miles in length, and with an invested capital of more than $500,000,000.

In 1838 the London and Birmingham railway was opened, and the journey accomplished at the rate of more than 20 miles an hour, then accounted an extraordinary rate of speed. Within the next five years bills had been passed through parliament, and the foundation laid of all the great trunk lines in Great Britain and Ireland. In 1854, a quarter of a century after the opening of the Liverpool and Manchester line, there were more than 8,000 miles in operation, built at an average cost, apart from rolling stock and other equipments, of about $175,000 per mile. This may appear an extravagant figure, even when compared with some of the most expensive work on the Central Pacific, where on the most difficult portions of the track, over and through the Sierra Nevada, were expended on an average, including the outlay on tunnels, cuttings, and bridges, not more than $150,000 per mile. The fact is accounted for in part by the more substantial character of English roadways, needlessly solid and substantial in the opinion of American engineers; but more so by the expense for right of way, some of which, passing through towns and cities, and through thickly populated sections of the country, was purchased at an enormous cost. On the Metropolitan railway system in London, for instance, 22 miles in length, and built partly underground, $55,000,000 was expended, or at the rate of $2,500,000 per mile; and on the North London, built mainly on arches, the outlay was $1,635,000 per mile. The cheapest lines of any considerable length were in Scotland, among them being the Forth and Clyde, costing at the rate of only $27,500 per mile.

In 1874 the mileage had been more than doubled, and at a slightly larger proportionate expense. In 1884, according to the most reliable estimates, there were nearly 20,000 miles in operation, and in 1890 from 22,000 to 23,000 miles, the small ratio of increase, as compared with the United States and even with some European countries, being caused by the fact that there were few more railroads to build, or at least few that would pay to build. At the beginning of 1884 the company which had the greatest length of line was the Great Western, with its 2,270 miles of track, its 1,580 locomotives, its 4,500 passenger, baggage, and mail cars, and some 35,000 freight and other cars. Then came the London and Northwestern, with about 1,800 miles, the Northeastern with 1,540, and the Midland with 1,390 miles, followed by others among the twenty principal railroads, varying from 1,050 miles for the Great Eastern to twelve for the North London. The volume of traffic in the last, probably the shortest line in the United Kingdom, may be judged from the fact that it required no less than 90 locomotives, with 620 passenger-coaches, and nearly 400 freight-cars.

In Scotland the longest line in 1884 was the North British, with nearly 1,000 miles of track, followed by the Caledonian and the Glasgow and Southwestern, with 870 and 340 miles respectively. On the leading

Scotch lines the proportion of traffic per mile was at least on a par with, and in some instances exceeded, the average English lines; for while there might be less to carry, both in the way of passengers and freight, the competition was far less severe. But such was not the case in Ireland, where her longest line, the Great Northern, had only about one eighth of the rolling stock per mile required by several of the great trunk lines of England. On all the lines in the United Kingdom there were, at the beginning of 1884, 14,500 locomotives, 32,300 passenger-coaches, and about 460,000 freight and other cars, thus indicating an enormous volume of traffic, and one exceeded only by that of the United States, whose rolling stock consisted in the same year of some 24,600 locomotives, 24,000 passenger, baggage, mail, and express cars, and nearly 800,000 freight-cars.

For the 18,600 miles of railroad in operation throughout the United Kingdom in 1883, the total receipts were $355,000,000, or at the rate of about $19,000 per mile. For the 120,500 miles in the United States in the same year, the total earnings were $807,000,000, or at the rate of $6,700 per mile. And yet the earnings per train mile were larger in the latter country than in the former, averaging $1.15 for passenger and $1.62 for goods traffic, against $1.05 and $1.50 respectively. The difference is accounted for by the larger number of trains running over the British roads, where sometimes they follow each other as do our own street-cars, at intervals of a few minutes. It may here be remarked that the Americans work their roads with a remarkably small force of men, averaging in 1880 only 4.7 per mile, against 19.7 in the United Kingdom and 14.3 in Germany. Nor is this entirely accounted for by the comparative thinness of traffic on American roads, since the number of train miles a year per man is nearly as three to one compared with Great Britain, and nearly as two to one compared with Germany. To the smallness of their working force is due in part the large number of accidents on United States railroads, amounting for 1880 to 2,541 persons killed and 5,674 wounded, or a total of 8,215 casualties, of which more than one half were among the employees.

In the United Kingdom the amount expended on railroad construction up to the close of 1883 was estimated at nearly $4,000,000,000, of which only about 37 per cent consisted of ordinary shares, the remainder being preference, guaranteed, and debenture stock. In 1845–6 railroad dividends appear to have reached their maximum, causing, with the extravagant expectations thus excited, an inflation of values such as can only be compared to that of the Mississippi scheme. Then came the inevitable collapse, attended with a decrease in dividends to an average of less than three per cent, followed by a recovery, until in 1883 the average rate on ordinary stock had risen to nearly four and three quarters per cent.

In the United States, up to the close of 1889, the total outlay for railroad construction was at least $9,500,000,000; but as to the proportion between ordinary shares and bonds or other preference stock, there are no reliable data. In 1876 the average dividend paid to the holders of ordinary stock was a fraction over three per cent; in 1878 it was less than two and a half per cent, falling with some fluctuations to one and four fifths per cent in 1888. Many of the roads which enjoy the largest traffic, as in the case of the Erie, have paid no dividends for many years, and there are few whose shares are considered a good investment at par. But before proceeding further with the subject of American railroads, let us glance briefly at those of Europe, of Asia, Africa, and Australia.

In France, though a few tramways were opened at an earlier date, it was not until 1833 that the government prepared a comprehensive system of plans and surveys for the railroad development of the country.

Some few years later a scheme was devised, whereby the state furnishing one half the cost, private companies were to build, equip, and work the lines at their own expense for a certain term of years. Thus in 1857 there were six large companies in operation, by which the smaller and cheaper local roads, afterward built under government patronage, were for the most part absorbed. After several projects for a system of state railroads had for various reasons been abandoned, in 1884 an agreement was made whereby, in addition to the 17,000 miles then in operation, 7,000 were to be constructed at the expense of the six great companies, the money to be ultimately refunded by the state, which meanwhile guaranteed to the shareholders a dividend of not less than seven per cent. In return the companies were subject to a tax, in proportion to their traffic, forming with other dues a considerable source of revenue. On 13,600 miles of the French system of railroads it is estimated that $1,650,000,000 has been expended, or an average of more than $95,000 per mile.

In Belgium the work of railroad building was actively begun in 1833, when government lines, arranged in the form of a cross, with the intersecting point at Malines, were so constructed as not only to develop the commerce of the country, but to secure a portion of the German traffic which formerly passed through Holland. The rest was left to private enterprise, 1,400 miles being built up to the close of 1870, and with such keen competition between state and private roads that fares and freights were reduced to the lowest possible point. Hence, some few years later, the government began to purchase the competing lines, of which in 1886 it owned about three fourths. At that date there was but one private system of any considerable extent, and between it and the state there was a special agreement, though its effect was not to establish an increase in rates, which still remained the lowest in Europe.

The first railroad in Germany was opened in 1835, and in Prussia in 1839. While the government of the latter country always encouraged railroad development, and in 1848 began the construction of railways of its own, it was not until many years later that its railway system began to be fully developed. Most of the earlier lines were built by private enterprise, being easy of construction, and requiring a comparatively small outlay of capital. But in 1879 a measure was passed authorizing the purchase of private lines by the state, into whose hands had passed in 1885 nearly all of the 14,000 miles of Prussian railroad. Although the prices paid were high, they returned a moderate profit, and that notwithstanding extremely low rates, averaging for passengers little more than a cent a mile.

It was not until several years after their introduction into other countries that the government of Austria began to encourage the construction of railroads. In 1838 charters for short periods were granted to several companies, and about the same time the state began to build lines of its own, most of which, under the financial pressure caused by the revolution of 1848, passed into private hands at less than one half of their actual value. After the war of 1866, however, railroad building was more rapidly developed, with persistent efforts on the part of the state to enlarge its system. Including those of Hungary, it was estimated that in 1888 there were about 13,000 miles of road in operation, of which perhaps 4,000 were in the hands of the government.

At the same date Switzerland had in all about 2,000 miles of road, though it was not until three lines across the Alps had been completed by France and Austria that the first Swiss railway, the St Gotthard, was even projected. With its tunnel more than nine miles in length, it was, however, one of the most stupendous achievements of the age, and in common with all railroads in this republic, while receiving aid from the cantons, is the property of a private incorporation.

In Italy there are four main systems of railroad, the Calabrian, the Roman, the upper Italian, and the southern, the last named skirting the shores of the Adriatic. Notwithstanding liberal subsidies, the only one that has prospered is the southern system, that of Calabria, including Sicily, proving so unfortunate that in 1870 the government was compelled to assume its management. For the same reason, some three years later, the Roman railways passed into the hands of the state. Soon afterward negotiations were in progress for the purchase of the remaining systems; but eventually all of them were leased for a term of sixty years to three companies, two of them controlling each 3,000 miles of road. While fares and freights were reasonable, the service was slow and inadequate, and both as to construction and equipment the Italian railroads ranked among the poorest in Europe.

In railroad, as in other development, Spain has been behind the age, and it was not until 1848 that the first line was opened. Of the 6,000 miles thus far constructed, the greater portion was built between 1855 and 1865, under the stimulus of liberal subsidies from the government, the effect of which was to bring into the field a number of speculative enterprises, resulting in later years in a period of prolonged depression.

In Portugal, as in Norway and Denmark, railroad development has been extremely slow, and in all these countries most of the lines are either government property or under government control. In Sweden the state owns about one third of its 5,000 miles of road, constructed at smaller cost than in any country in Europe, or perhaps in the world.

Though as early as 1835 a short line was built by way of experiment in the neighborhood of St Petersburg, it was not until 1851 that the first railway worthy of the name was opened in Russia. Its route was between St Petersburg and Moscow, and though built by the state, it passed into the hands of a private company. Soon afterward came the Crimean war, interrupting for a time the progress of railroad development; but at its close the work was rapidly pushed forward, the surveys only being made and the route determined by the government. In European Russia, while furnishing more than one half of the capital, the state owns less than one tenth of the railroads. In Asiatic Russia, the first railway was opened in 1872, in the lieutenancy of Caucasia, and in 1883 a military road was completed connecting the Caspian with the Black sea.

Of railroad building in Siberia, enough has already been said in previous chapters of my work. Across the mountain region between Urga and Kiakhta, tea is still conveyed, as I have said, by camels, while a fleet of seventy steamers is running on the Amoor. For the movement of tea alone across the plains of Mongolia, 50,000 dromedaries are required, and the service is probably twenty times as costly as would be its carriage by railroad. If the finances of the empire should permit, it is expected that the transsiberian road to Vladivostok will be completed about the year 1895, and that China and Japan would be thus placed within twenty-two days' journey of western Europe. Among the objects of this enterprise was the further development of commerce with the United States, and especially with or by way of San Francisco; for as yet the traffic of Vladivostok is insignificant, the little that exists being mainly in the shape of government supplies. Doubtless the effort will be made, though with what result is doubtful, for the ocean voyage and the frequent handling of goods would be serious objections to a project that must compete with long established lines of communication. But to a Cosmopolitan Railroad, such as I have already described, no such objections exist.

In Hindostan the first section of the Great Indian peninsular railway, 20 miles in length, was completed in 1853 between Bombay and Tannah. In 1885 the company had some 1,300 miles open for traffic. Out of a total of more than 11,000 miles in operation at the latter date, about 4,500 belonged to the government, and on over 6,000 interest was guaranteed to the corporations whose property they were. Their cost was but a fraction of that of British lines, averaging less than $70,000 per mile against $210,000 for the latter, while on some of the state or assisted lines it did not exceed $24,000 per mile.

In Japan a line from Tokio to Yokohama was opened for traffic in 1872, and to this others have since been added, with the prospect of such further development as may at length unfold the vast resources of that country. In China a line between Shanghae and Woosung was opened in 1876, and was so largely patronized by the natives as to provoke official jealousy, by reason of which it was closed in the following year. It is now proposed, as I have said, to connect all portions of the empire with a system of railroads extending from its northern to its southern boundary, and from its western limit to the shores of ocean.

In the entire continent of Africa there were in 1885 not more than 2,500 miles of railroad in operation, the Egyptian lines connecting Alexandria with Cairo and Suez, and with branches elsewhere in the Delta. In Cape Colony there were three distinct systems of railway, in all some 1,300 miles, with perhaps 300 miles in the colony of Natal, either completed or in course of construction.

In Australia, a country about equal in area to the United States, omitting from the map of the latter the territory of Alaska, there were in 1887 at least 8,000 miles in operation, about one fifteenth of the total mileage of the union, but more than double the ratio per capita of population. In the two oldest colonies, those of New South Wales and Victoria, their railroads were either built or purchased by the government, and were entirely under government control. For the year 1886–7 the total receipts of the Victorian system were nearly $12,500,000, of which about 58 per cent was consumed in working expenses, against an average of 65 per cent in the United States. The cost of construction was estimated at $58,000 per mile, or almost identical with that of American railroads, making for the 1,900 miles of completed road a total of $110,200,000, on which the net earnings of $5,250,000 would leave a fair margin of interest.

In other and more sparsely populated colonies the results were somewhat less favorable; but it may be stated in general terms that in a country where there is nearly a square mile of land per capita of the population, its railroads not only pay working expenses, but yield a small margin of profit. The capitals of the four leading colonies are connected by a continuous line running from Adelaide in South Australia, to Brisbane, the metropolis of Queensland in the north. From Point Augusta to Port Darwin a line is being constructed, as I have said, 2,000 miles in length to connect the Indian with the Southern ocean; and in common with most of the Australian roads, passes for the most part through desert and uninhabitable lands, a region utterly without resources or prospect of local traffic. It may indeed be affirmed that over the most barren portions of the route, the proposed Cosmopolitan Railway will enjoy a larger traffic than falls to the lot of any railroad on the Australian continent.

In New Zealand the work of railway construction was not begun until 1860, and seven years were consumed in building the first insignificant line, connecting, in the province of Canterbury, the seaport of Lyttleton with the capital of Christchurch. In 1872 the government inaugurated an extensive system of roads, connecting the principal towns in all the provinces.

In 1830 there were 23 miles of railroad in operation in the United States; in 1890 there were at least 160,000, or more than one half of the total mileage of the world.

Though in 1827 a rough track was laid between Quincy and Boston, on which to haul the granite for Bunker Hill monument, it was not until two years later that the first experiment was made with a locomotive, near the town of Honesdale, Pennsylvania. The engine was imported from England, and was modelled after the fashion of the *Rocket*, built in 1829 by Robert Stephenson, and then considered a marvel of power and speed. Its weight was about five tons, and it could draw on a level, at the rate of 25 miles an hour, from 30 to 40 tons—somewhat of a contrast with our modern locomotives, which with only eight times the weight have more than double the speed, and more than fifty times the power.

In the spring of 1830 the first division of the Baltimore and Ohio railroad was opened, though on account of a scarcity of cars there was no regular passenger traffic until July in the following year, when appeared in a Baltimore newspaper the first railroad time-table published in the United States. Of a portion of it the following is a copy. "Railroad notice. A sufficient number of cars being now provided for the accommodation of passengers, notice is hereby given that the following arrangements for the arrival and departure of carriages have been adopted, and will take effect on and after Monday next, the 5th instant, viz.: A brigade of cars will leave the depot on Pratt St. at 6 and 10 o'clock A. M., and at 3 and 4 o'clock P. M., and will leave the depot at Ellicott's Mills at 6 and 8½ o'clock A. M., and at 12½ and 6 P. M."

Thus did the good citizens of Baltimore travel in their brigades of cars, drawn as yet by horse-power, for it was not until some two years later that locomotives were placed on the road.

The first railway worked by locomotives was a section of the South Carolina railroad, opened for traffic in November 1830, from Charleston to Hamburg, opposite the city of Augusta.

In October of the following year the first passenger train was placed on the Mohawk and Hudson railroad, between Albany and Schenectady. Drawn by an English engine, named the *John Bull*, and driven by an English engineer, it attracted no little attention, for it was probably the first passenger train hauled by a locomotive that was ever placed in service in the United States.

The cars were of the rudest construction, resembling at first, as in the mother country, the old-fashioned English stage-coach, and with none of the modern appliances for comfort. The seats were narrow, stiff-backed, and uncushioned, and the roof of the car so low that in winter ventilation was impossible. At each end a stove warmed the poisonous atmosphere, and at night a single tallow candle gave forth a dim and flickering light. The springs were of the most primitive pattern, causing the vehicle to jolt, and the sashes to rattle like those of a modern hotel coach, so that reading or conversation were not to be thought of. The dust was intolerable, and as there were neither spark-arresters on the engine nor screens at the windows, the traveller emerged from his car smutted and begrimed, as though he had passed the hours in a blacksmith's shop.

From 23 miles in 1830 the number had increased to more than 3,000 in 1840, to more than 8,500 in 1850, and at the opening of the civil war was little short of 30,000. Then came a check to railroad construction, less than 3,000 being built for the four years ending with 1865. During the seven years that followed the mileage was almost doubled, and though in 1872 began a period of financial disaster and business stagnation, over 14,000 miles were added in the five ensuing years. In the next half decade nearly 40,000 miles were opened, and in 1890, as I said, the total mileage of the United States was not short of 160,000. In 1850 there was not a single mile of railroad west of the Mississippi; in 1890 more than one third of the entire mileage of the country lay west of that river. In the latter year it was estimated that there was a mile of railway to every seven square miles of territory and to every 500 inhabitants, while in Europe the average was a mile of railroad to every ten square miles and to every 2,000 inhabitants.

In the United States the cost of construction has been with few exceptions smaller than in European countries, and very much below that of English railroads. In many of the first lines it did not exceed $10,000 per mile, and within recent years roads have been built the outlay on which did not exceed $15,000 per mile.

The heaviest traffic is on the lines extending from the middle and New England states westward to Chicago and beyond; but in every portion of the union the traffic is much larger in proportion to population than in European countries. Cattle are often conveyed to market 1,000 miles or more, and produce twice that distance, at lower rates than prevail in any other country in the world. Moreover, in recently settled districts the people depend on railroads for everything they wear and almost everything they consume, with the exception of their bread and meat. Thus it is nothing uncommon for American roads to handle from 30,000 to 40,000 tons of freight per day, and that with a corresponding volume of passenger traffic; for the Americans are a travelling community, journeying by rail nearly twice as much as in European countries, and with three or four times the volume of goods transportation per capita.

In 1890 there were at least twenty-five corporations, each possessing or controlling more than 1,000 miles of road. On some of them the volume of traffic was simply incredible, and the receipts in proportion; those of the New York Central and Hudson River, for instance, with some 1,400 miles of road, exceeding for

1888 $63,000,000. By this company more than 20,000 men were employed, to whom for that year nearly $12,500,000 was paid out in wages, or an average of more than $600 for each. Thus we have a single corporation supporting an army of men greater than that with which Napoleon crossed the Alps and wrested from Austria the brightest jewel in her crown.

As to the volume of traffic on all the American roads, and more especially as to the rapidity of its growth, the following statistics will convey a clearer idea than any words of mine can give: In 1880 the entire earnings from passenger traffic were $144,100,000, and from goods traffic $416,150,000, against $206,790,000 and $502,870,000 in 1884, the proportion of working expenses rising meanwhile from about 61 to more than 65 per cent. During this interval the passenger earnings per train mile had been reduced from $1.25 to $1.05, and the freight earnings from $1.70 to $1.56, with a slight increase in either case in the working expenses. For 1884 the profits were indeed so small as to leave but a slender margin after the payment of operating and other expenses. For 1886 the number of passengers carried was 382,285,000, the number of tons of freight 482,245,000, with an average fare of 2.18 and an average freight or 1.04 cents per mile. Such, in brief, are the operations of American railroads within recent years; and before the close of the present century who shall say how vastly they may even yet be increased?

For many years before construction began, the project for a transcontinental railroad was one dear to the American people, and had been a fruitful subject of discussion among journalists and politicians. The first one to propose it was a citizen of Rochester, New York, named Hartwell Carver, whose plan was to build a line to the Columbia river, for California was then a portion of the Mexican domain. After expending the best years of his life and most of his means in attempting to carry it out, he was compelled to abandon an undertaking for which the time was not yet ripe. Among scores of others was the scheme of Asa Whitney, who proposed to connect Lake Michigan with Puget sound, and demanded as a subsidy more than 90,000,000 acres of land, from the sale of which he proposed to build the road. For thirty years or more before its actual inception arguments and opinions, estimates and plans, were formulated by various individuals and conventions; but none of them took practical shape.

Thus matters stood at the opening of the war, when a transcontinental thoroughfare was regarded as a national necessity: as a political necessity to prevent the threatened secession of the Pacific states and territories, and as a military necessity to put an end to Indian wars. Moreover, it would open to settlement the vast unpeopled region between the Missouri river and the Pacific, one larger in area than all the remainder of the United States, but most of which, without railroads, must remain practically worthless, destitute as it was of the means of communication, except for wagon roads, and here and there a stream where navigation was possible for a portion of the year. To the last of these points especially I was myself one of those who called attention many years before, when in the summer of 1849 I delivered a speech on the subject of a Pacific railway before a camp of five thousand California-bound emigrants at Wakerusa, now Lawrence, Kansas. The address, which will be found in the appendix of this volume, was repeated by request in November of the same year before the citizens of Jackson county in that state.

In June 1861, the Central Pacific Railroad company was organized, to which by acts of 1862 and 1864 congress voted a subsidy of $24,000,000 in bonds and 9,000,000 acres of land, consisting of alternate sections on either side of the road. To the Union Pacific similar aid was granted, and in May 1869, several years in advance of the stipulated time, the two roads met at Promontory in Utah. Thus was completed, at a cost of nearly $200,000,000, the first of our transcontinental railroads.

The difficulties, both financial and engineering, encountered by these companies it is impossible fully to appreciate. On the building of the first section of their road, from Sacramento to Newcastle, the directors of the Central Pacific expended all their private means, and until additional sections were completed, the government bonds would not be available. Capitalists would have nothing to do with the project, regarding it as simply chimerical; the public would not subscribe for its stock, and the subsidy bonds, when finally issued, were slow of sale at a heavy discount. For a time it seemed that the enterprise could only result in failure, and under less able and resolute men doubtless it would have done so. In the case of the Union Pacific, it was not until a contract for the greater portion of the route was assumed by Oakes Ames, and by him assigned to a party of capitalists connected with the Credit Mobilier that success was at all assured, or appeared indeed to be possible.

On both lines the engineering difficulties were simply appalling. "For four long years, by day and night," says Bancroft, "the directors of the Central Pacific laid siege to the Sierra, until at length it was bound in iron. During this time hills were pierced, cañons bridged, and no less than fifteen tunnels, one of them 1,650 feet in length, were driven through the solid rock. As the track crept along the western slope, the sides of entire mountains were torn away, and huge granite hills were blown into millions of fragments. Now the men found themselves on the brink of precipices 1,500 feet in depth, and now amid avalanches of snow and ice, which thundered across their pathway from crags that appeared as though suspended in the skies. The route lay across a range of mountains that rose in a series of lofty cones, until, after a distance of 70 miles, the lowest pass reached an elevation of more than 7,000 feet, while the descent on the eastern slope to the desert plains beyond, without wood or water, and almost without population, seemed equally difficult. No wonder that Governor Stanford himself exclaimed, as on one occasion he ascended these snow-capped summits, 'Is it possible that a railroad can be built through such a region!'"

To the Southern Pacific, incorporated in December 1865, a subsidy in land was granted by congress similar to that of the Central Pacific. From San Francisco the line was pushed forward through southern California, Arizona, and New Mexico into Texas, finally making connection with New Orleans. Its capital stock, which in 1870 was $40,000,000, was afterward increased to $150,000,000, and with this company have been incorporated nearly all the railroads of California, including the Central Pacific and its numerous branches.

Of the other railroad systems of the Pacific states and territories it is unnecessary here to speak in detail. Westward from the Golden Gate to the Queen City of the Plains, and thence to the borders of Kansas and Nebraska, the iron track has been extended, two of the great trunk lines already passing through Denver, the railroad centre of Colorado. In that state alone there were at the close of 1888 no less than 4,000 miles of railroad, reaching eastward to the Missouri, westward to the Pacific, and southward to the gulf of Mexico, with local roads connecting the mining regions with the great emporia of commerce.

Of the benefits conferred on the Pacific states and on the United States by the construction of their overland railways I shall speak in another chapter of this work. By the government of Canada they were considered sufficient to warrant the granting of enormous subsidies to the Canadian Pacific, far exceeding in value those of all our overland roads combined. In addition to a loan of $47,500,000, and a land grant of

25,000,000 acres, most of it available for settlement, they included a guaranty, for a term of ten years, of three per cent interest on $100,000,000 of stock, with the transfer, free of cost or taxation, of 700 miles of road, built and equipped by the government at an expense of $30,000,000. In November 1885 the line was completed, at an outlay of at least $120,000,000, most of the funds being procured in London and Paris by the mortgage and sale of the land grant.

To quote once more from Bancroft's *History of British Columbia:* "In the interior of British Columbia are still vast districts as yet almost untrodden by the foot of civilized man, though forming little more than a speck when compared with the deserts of the dominion. The entire area of Canada is but little smaller than that of Europe, and excluding from each, as almost worthless, the portion within the Arctic circle, it will be found that the surface of the former is equal to that of all the empires, kingdoms, principalities, and republics between the Adriatic and the Black sea. Covering the broadest and not the least fertile portion of the North American continent, with an almost endless extent of vacant land, an invigorating climate, and unlimited resources; with valuable fisheries in the lakes and rivers, and around the coasts; with boundless forests within reach of navigable water; with immense deposits of coal and iron, gold and silver, copper and lead, on the seaboards and in the interior—with all these elements of wealth, the question was, how to develop a region thus lavishly provided. This railway is the answer.

"But the railway was projected also as a portion of a great national highway, extending from Great Britain to the Indies, and to many portions of the British empire. Esquimalt, the naval station, and probably destined to be the arsenal of the province, was from Liverpool at least a three months' voyage by steamer; while via Halifax and by rail it could be reached in a fortnight. By the construction of this line, the Australian colonies, New Zealand, and every portion of England's possessions would be more or less benefited; while to Canada herself, ranking already among the great maritime powers of the world, with a shipping trade greater than that of Germany, and at least twice that of Spain or Russia, a transcontinental railway under her own control was an advantage worth any reasonable outlay."

In the entire dominion of Canada there were in 1885 about 10,000 miles of railroad in operation, the principal system being that of the Grand Trunk, with 2,500 miles, the first section of which, and the first one in Canada, was completed in 1853, from Portland, Maine, to Montreal. While the Canadian lines were built at moderate cost, the average, apart from the Canadian Pacific, being $23,000 per mile, they are probably, in proportion to earnings, the most expensive lines to operate in the world, with returns on the invested capital of little more than two per cent.

In Mexico the subventions and concessions of the government have been even on a more liberal scale than those of Canada or the United States—more liberal perhaps than the resources of that republic would appear to justify. In the great central plateaus, with their slight elevations, there are no serious obstacles in the way of railroad construction, uniting the regions bordering on the gulf with the nearest points of railroad contact beyond the northern frontier. The principal systems are the Mexican Central, the Mexican National, and the International, the first of which had some 900, and the second more than 1,200, miles in operation in 1884, with a total mileage of nearly 4,000 miles for the entire republic in 1887. Among projected lines was the Pacific Coast railroad, the object of which was to connect the entire series of Pacific ports south of Fort Yuma with Guatemalan and perhaps with Chilian seaports.

In Central America but little progress has thus far been made in railroad building. It was not until

1880 that the first line was opened in Guatamala, from San José to Esquintla, followed in 1883 by one from Champerico to Retalhulen, and a year or two later by another from San José to the capital. In Honduras a road was begun from Puerto Caballos, on the Caribbean sea, to Amapala, on the bay of Fonseca; but work was suspended in 1871, and on account of political disturbances and lack of means has never since been resumed. In Salvador a railway has been opened between San Miguel and Port La Union, with another in course of construction from Acajutla to the coffee-growing districts of Santa Ana. In Nicaragua a line between Corinto and Leon, by way of Chinandega, was partially completed in 1881, connecting later with the steamship service on the lake. In Costa Rica there are three several systems in operation, the Central and the Atlantic, from San José and Limon respectively to the interior provinces, and the Pacific, from Puntarenas to Esparta, their total cost exceeding $12,000,000, though valued in 1883 at little more than half that amount.

But the most profitable line in Central America, and one which has become historic, is the Panamá railroad, for which, in 1846, a treaty between the United States and New Granada guaranteed to the former "the right of way or transit across the isthmus of Panamá, upon any modes of communication that now exist, or that may be hereafter constructed." In 1850 work was begun, and in 1855 completed, between the terminal points at Colon and the city of Panamá. On the 47 miles of route there were expended for construction account $8,000,000, or at the rate of $170,000 per mile. In 1881 its stock was sold to the Panamá canal company for $250 a share, or $17,500,000 in all. From 1852, when first it began to yield an income, to 1866 its total revenue was $22,143,850, against $9,871,399 of expenses. For 1883–4 the entire earnings were $6,306,760, against an outlay of $3,979,144, leaving as net proceeds the goodly sum of $2,327,616. Until the completion of the overland railroad the bulk of all the more expensive merchandise passing between the Pacific coast of North and South America and the eastern states and Europe was forwarded by way of the Panamá railroad, and now with three transcontinental thoroughfares its traffic has not diminished. In other of the Colombian states railways have either been completed or are now in course of construction, the total mileage in operation for 1887 being 201, with several hundred miles of projected road.

In Ecuador there was at that date only one railroad in operation, 76 miles in length, between Yuaguachi and Puente de Chimbo, with another contracted for between Puerto Bolivar and Machala.

In Peru railroad construction was begun by the government in 1852, with a view to develop the resources of the country by connecting the seaports with the interior valleys. In 1878 there were about 2,000 miles in operation, built at an expense of $180,000,000, the longest one crossing the summit of the Andes at an elevation of 15,000 feet above the level of the sea. None of the lines appear to be remunerative, and of this one, the highest in the world, the British minister at Lima reported: "They have built 232 miles of difficult railway at an expense of about £6,000,000, in order that three or four goods trains may run per week."

Chili was the first among South American republics to begin the work of railroad building. In 1850 the Copiapo railway was opened for traffic, since which date about 1,700 miles have been placed in operation, more than one third being the property of the state. In 1884 the total cost of the government roads, then 590 miles in length, was stated at $42,107,934, or an average of $71,300 per mile, against $90,000 for the Peruvian roads. But the former, it must be remembered, were built for the most part under the superintendence of Henry Meiggs.

In the Argentine Republic, where it is said that even beggars ride on horseback, it was not until 1870 that the first railroad, from Rosario to Córdoba, was opened for traffic. Three years later was completed by the government the first section of the Transandine road, of which Villa Mercedes was the starting-point, and in 1885 Mendoza was the terminus. Thence to the Chilian boundary, by way of the Uspallata valley, was a distance of only 140 miles. Of the 472 miles constructed at that date, some of it at an elevation of 14,000 feet, the entire cost was $13,000,000, and of all the Argentine railroads, with a total mileage exceeding 3,700, about $100,000,000, or an average of some $27,000 per mile. The gross earnings for 1885 were $16,150,894, and the net earnings $6,489,701, the rates of dividend declared being among the highest in the world.

One of the most important systems in South America is that which supplements the great waterways of the Paraguay and Uruguay with their tributary streams, giving to this region a traffic which is not enjoyed by the northern and more fertile districts. In Uruguay there were in 1887 about 340 miles in operation, one of the lines running from Montevideo into the interior, and another in course of construction from that city to a point on the Rio de la Plata opposite Buenos Ayres, where it will connect by steamer with the Argentine systems. In Paraguay there was only one short railroad, and in Bolivia a few insignificant lines.

In all the vast empire of Brazil there was in 1857 but a single line of railroad, and that one only 11 miles in length, connecting with the foot of the sierra the head of the bay of Rio de Janeiro. In 1887 there were open for traffic nearly 5,000 miles, connecting the principal centres of commerce and agriculture, with 1,000 under construction, and more than 2,000 projected. To the state belonged nine different lines, with a total mileage of 1,300, the principal one being the Dom Pedro II., connecting the eastern and western provinces of the empire. In the following year subsidies and contracts of enormous value were awarded to a syndicate of Canadian capitalists, controlling, it was said, $100,000,000, with a view still further to enlarge the railroad systems of Brazil. Among the various projects was one to build a road around the rapids of the Tocantins river, and thus open for navigation more than 2,500 miles of navigable water on the upper course of the stream. In was also proposed to connect by rail the head-waters of the Pará and Amazon rivers.

In Venezuela franchises have recently been granted to European capitalists for the construction of lines from Puerto Cabello, Maracaibo, Mérida, and other points, to connect with and develop the resources of the interior states. In 1887 there were only a few short lines in operation, the longest one being from Port Tucacas to the copper mines of Arvá.

Thus briefly I have sketched the history of railroad construction, and in part of railroad operation, throughout the world, from the time when George Stephenson drove the first locomotive from Darlington to Stockton at the rate of a dozen miles an hour, until to-day 50,000 locomotives speed at the rate of 20 to 60 miles an hour over 300,000 miles of track. Few there were who foresaw this marvellous growth, and none who could foretell the improvements it was destined to work in business methods, in commerce, manufactures, mining, agriculture, and in every branch of industry and enterprise. But vast as are these results, exceeding almost the limits of human comprehension, they are but an earnest of that which is to come, for as yet the work of railroad building is almost in its infancy. More than one half of the habitable globe is still without the facilities of railroad communication. In all the vast continent of Africa there are not 3,000 miles of road; in northern and eastern Asia there is not so much; in Australia and South America there are but a few thousand miles; and yet each of these countries would support a larger population than that of all the European nations.

Among the projects of the future and of the near future is undoubtedly the building of a Cosmopolitan Railway by the route that has already been suggested. To say that it will pass largely through a barren and worthless region is no sufficient argument against it; for so do some of the most profitable though most costly roads in the United States. Northward from the line of the Canadian Pacific are vast areas of unoccupied land, rich in resources, and awaiting only the advent of the railroad to insure their development. In northeastern Siberia we have still a virgin country, and one whose capabilities have never yet been tested. It is not, however, from the traffic of these unsettled regions that the Cosmopolitan Railway would draw its revenue, but from the profit made by carrying over this new line the traffic of other lines already in operation. By our overland railways we have linked in bands of iron the metropolitan cities of the Atlantic and Pacific shores; by the Cosmopolitan Railway we shall link together the metropolitan cities of the world.

CHAPTER VI

THE RAILWAY AS A FACTOR OF PROGRESS

To the very existence of civilized communities the railroad has become almost as much a necessity as is the circulation of the blood to the individual. Not only do we depend upon it for the means of locomotion, but for almost everything that we eat or drink or wear. And in no country in the world do people rely so much on their railroads as in the United States, where in the more thinly populated sections coal for fuel and lumber for building are often conveyed by rail hundreds of miles from the place of production. But perhaps their greatest benefit has been in the opening up for settlement of vast and fertile regions, before unpeopled except by savages and wild beasts. It is not indeed too much to say, that but for the advent of the railway, the population of this republic, instead of being spread over its entire surface, would still have been mainly confined to its thirteen original states, and with but a small percentage of that which now exists on the Pacific slope.

Nowhere has the railway wrought such marvellous results as in Colorado and on to the Pacific, converting, as at the touch of a magic wand, what was before little else than a desert, or at best a pasture-ground, into a region abounding with grain and fruit, with all the choicest products of the farm, the orchard, and the vineyard, and giving especially to Colorado and California a commercial and industrial development such as has never before been witnessed in the lifetime of a single generation.

Said General Sherman in one of his reports to the secretary of war: "No person who has not been across the continent can possibly comprehend the change now in progress there. Nearly two thirds of the domain of the United States lies west of the Mississippi, and at the close of the civil war the greater part of it was occupied by wild beasts, buffalo, elk, antelope, and deer, and by wilder Indians. Now, by the indomitable courage, industry, and thrift of our people, this vast region has been reduced to a condition of comparative civilization. Three great railroads now traverse the continent, with branches innumerable, and a fourth is making rapid progress. States, territories, cities, and towns have grown up; neat cattle have already displaced the buffalo; sheep and goats have displaced the elk, deer, and antelope; and crops of wheat, rye, barley, and oats are now grown in regions believed hitherto to be desert or inaccessible. This is the real cause of the prosperity which now blesses our country and swells the coffers of our national treasury."

To the railroad is largely due the fact that in proportion to her area and population California is now the largest wheat and fruit producing region in the world, and that her metropolis already ranks among the leading commercial and manufacturing centres of the union, with a population exceeding 300,000, with a property valuation assessed at more than $1,000,000,000, with exports of over $100,000,000 a year, and with its warehouses filled with the products of every quarter of the earth. Little more than a quarter of a century ago a single train would have contained the entire population for hundreds of miles to the northward of Fort Yuma; but now we have in southern California one of the wealthiest sections of the Pacific coast, with lands before considered worthless, except as cattle-ranges, now selling at from $50 to $300 an acre. Taking, for instance, a belt of ten miles in the San Joaquin valley on either side of the Southern Pacific, containing in all some 3,000,000 acres, it is estimated that the value of these lands has increased since the opening of the road by more than $50,000,000; while towns which never before existed, except perhaps on paper, have now become thriving commercial and agricultural centres.

In other sections of the Pacific coast the benefit of railroads has been no less widely felt. Before their advent but little progress was made in developing the great mining districts of Nevada and Utah, of Colorado and Arizona, for without their aid no thorough development was possible. To the Comstock lode, for instance, it would have been almost impossible to bring, except by rail, the heavy machinery required for the deeper levels from which hundreds of millions have been extracted; nor could the mines of Colorado and other districts have been profitably worked unless the railroad had been there to forward their supplies and carry to market their bullion.

To the railroad also is largely due the growth of such cities as Los Angeles, the metropolis of southern California, from a few thousand inhabitants in 1870 to more than 50,000 in 1890; as Tacoma in Washington, which from a settlement of 200 people in 1877, had become in 1890 a city of more than 30,000; as Spokane Falls, whose growth has been no less phenomenal. But perhaps the most remarkable progress of all has occurred in Denver, which from a mere village in 1860 had become in 1890 a city of more than 125,000, with a volume of commerce and manufactures exceeded only by that of San Francisco.

To the government, also, the benefits of railroad development have been no less pronounced, and especially in the saving of transportation charges, amounting in the case of the first overland road to more than the subsidy granted in bonds and lands. At the rates prevailing before the completion of that road, the charges for government transportation for the period of 1870–82 would have amounted to $91,204,281, whereas the actual charge by rail was only $9,082,086—a saving in thirteen years of $82,122,195, or more than 90 per cent of the previous outlay. But in other respects the good results accomplished by our transcontinental lines have exceeded the anticipations of the most sanguine. They have bound together the Pacific and the eastern states in bonds of ever-increasing strength; they have given to the former the means of protection against foreign invasion; they have almost put an end to Indian wars; they have afforded homes to hundreds of thousands of our citizens, extending the area available for settlement over more than one half of the national domain. Here indeed is progress, progress that will be yet more marked when the unpeopled regions of the north shall be opened up for occupation, and the railway systems of the world connected by a Cosmopolitan Railway.

To the governments whose interests are most concerned, but mainly to the government of the United States, we must look for aid in this great international undertaking. In extending their domain over the entire northwest, the American people have assumed the task of diffusing throughout this vast region the fullest benefits of civilization; and they cannot afford to shut their eyes to the responsibilities which are but the natural result. Nor will our Pacific states be backward in the great work which shall make them the abode of communities as numerous, as powerful, as enlightened, as are those which border on Atlantic shores. There is, perhaps, no measure of national policy that would tend more surely to this object than the construction of an intercontinental railroad—one that would add, as we have seen, but the smallest percentage to the railroad cost and mileage of the world.

Probably no country in the world could be more benefited by such a railway than Siberia. Take for a point of view the little imperial city of Irkutsk, for example, having contributary a productive soil, rich mines of gold, silver, iron, coal, copper, and lead, salt, asphalt, and ivory, and enjoying a beautiful site and a salubrious climate. Though already here is an oriental commerce, and throughout a vast area on every side magnificent river systems, yet streams are of little avail in developing the endless possibilities everywhere apparent, as they are closed to navigation for nine months in the year, and empty into a frozen ocean.

"The trade of Siberia," says Collins, "in seeking an outlet for its commerce, as well as an inlet to its wants, must seek it, against all precedent and all example, towards the sources of her great rivers; and these, again, mostly, in their general course, being from south to north, have their origin in that great backbone of Asia, which divides the waters of that continent between northern and southern Asia. The commerce, then, of this vast country, seeking a channel of communication with other countries and nations, must of necessity seek the sources of new rivers for an outlet; and in case of failure to meet the required facilities of water communication, must content itself with the more difficult and costly route by land—the only resort left to it. Hitherto, the close and jealous policy of the people inhabiting the more southern portions of Asia has forced the trade of that country westward, in order to seek an outlet. This route, which would be absolutely impracticable under any other than the government of Russia, has, under the fostering and thoughtful wisdom of that government, become one of the greatest commercial arteries in the world.

"Concentrating, as it does, at Kyachta, where it gathers the trade of Manchooria, Mongolia, and China, settling the balances, and arranging the exchanges, it then flows westward in a steady stream by land and by water, often slow, tedious, and expensive, until it becomes lost in the great ocean of European-Russian commerce at Nijne-Novgorod; there it commingles, increasing and perfecting that immense system of Russian inland commerce flowing towards the imperial marts of Moscow and St Petersburg.

"This trade, although great, is absolutely one of complete necessity, and flows only in a necessitous and restricted current, not at present susceptible of world-wide expansion, or of much interest out of its immediate local influence. What, then, does this country want? The question is easily answered. It wants a cheaper, an easier, a more rapid, and a more constant communication to the sea. What sea? Not the Polar sea—nature has laid a prohibition in that direction; not the Baltic, or the Caspian, or the Black seas, which would lead to the Atlantic ocean—that she has now by the present overland route. What then remains? The overland route to Pekin. Yes; but the land carriage is too great to reach the sea, even if permitted by China.

"What, then, is left? There is no communication eastward, in Siberia, into the Pacific ocean by water; if there was, the intense severity of the climate renders it impracticable. It seems, then, that there is no escape. East, west, north, south—all seem to be barred by nature or by man. But do not be too hasty; look upon that map once again. There is a chain of mountains, not very high, that skirts the southeastern horizon; look once again, you will see that two great systems of waters are forming upon their gentle sides and interlocking their rivulets within their ravines and gorges; gathering the dew-drops, embracing the bubbling springs, absorbing the murmuring brooks; and presently on either hand course great rivers, on their way to far distant, far different, and far divided oceans. Lake Baikal receives the drainage of these waters on the north, while the Amoor receives the waters from the eastern and southern sheds, gathering in its mighty course the accumulated streams of a hitherto unknown little world, and onward, rolling its unbroken and majestic course for two thousand five hundred miles, toward the rising sun and the mild waters of the Pacific ocean. Throw yourself with confidence upon its flowing tide, for upon this generous river shall float navies richer and more powerful than those of Tarshish; mines shall be found upon its shore richer than those of Ophir, and the timber of its forests more precious than the *Almugim* of Scripture; a mighty nation shall rise upon its banks and within its valleys, and at its mouth shall arise a vast city, wherein shall congregate the merchant princes of the earth, seeking the trade of a hundred million of people."

And again, when submitting to General Gortchakoff a project for a railroad from Chetah to Irkutsk, he says: "After having passed over the greater part of the country through which the road will naturally pass, and from information which I believe reliable, there can be no doubt but that the construction of a railroad is highly practicable. Chetah, situated on the Ingodah, at a point which may be relied upon as the head of steamboat navigation on the waters of the Amoor river, presents a favorable point from whence to cross the country in order to reach Irkutsk by the nearest practicable route.

"The Stanovoi mountains present no very great obstacle to the enterprise; in fact, the country, generally speaking, so far as I have been able to see myself, and from the information obtained from the most reliable authority, presents very great facilities for such an enterprise. The Amoor must become in the hands of Russia a very important country, through which a great trade will flow, opening Siberia to the commerce of the world. What is necessary, then, is to assist nature a little, and by building this road make the heart of Siberia easily accessible to commerce, so that her products can be quickly and readily exchanged or transported to the ocean by way of this railroad and the Amoor, where a ready market can be found. With steam upon the Amoor, and this railroad constructed, aside from commercial views, the railroad would be highly valuable to Russia in the development and protection of her possessions on the Pacific coast."

Eastern Siberia is a country of vast extent, with an area of more than 3,000,000 square miles and a population of less than 1,700,000 of European descent. This region has been to Russia what California has been to the United States, yielding from $12,000,000 to $13,000,000 a year of gold, with deposits of the precious metal far more widely distributed if less rich than in the former country. With other minerals she is well supplied, as also with marble and building stones, with furs and pelts, with wool, tallow, and hides, with tar, pitch, and turpentine. Of manufactured goods she consumes about $14,000,000 worth a year, most of them coming from Russia, though depending largely on China for cotton, silk, and woollen fabrics.

The entire manufactures of Siberia were valued in 1885 at not more than $8,000,000, and of these only some $2,500,000 belonged to eastern Siberia. The bulk of them consisted in the making of alcoholic liquors, to which purpose, for want of the means of transportation, a large portion of the grain crop was applied. What a revolution would here be wrought by the advent of the railroad, not only in the commercial and industrial, but in the social, moral, and even in the educational condition of the people; for of all countries on the face of the earth, eastern Siberia is in this last respect one of the most backward, with less than 200 schools, and not more than 5,000 pupils out of a school population of twenty or thirty times that number! There is not in all Siberia a single university, though $250,000 has been subscribed for this purpose, a portion of it as early as 1817. With the influences that railroads bring to bear, it would be impossible for the people longer to remain in this condition.

With the countries of Europe we are less immediately concerned; but in all of them, as in the United States, a greater impulse has been given to commerce and to every branch of industry by railroad than by steamboat or any other means of communication. It was not until after the middle of the seventeenth century that in England the first highway road was built, deserving of the name; it was not until nearly a century later that the first canal was opened for traffic; but while both gave material aid in fostering the commercial and industrial progress of the nation, that progress has been greater during the last half-century than for the five centuries before. And what is true of England is true also of other European countries and of the United States.

But not the least beneficent result of railroad construction is the incentive thus given to the people to move from place to place. Before the construction of common roads, when bridle-paths and pack-horses were the only means of travel, migration was almost impossible, and in the vast majority of instances people lived and died on the spot where they were born With the building of highways and the advent of the stage-coach, a better order of things prevailed; but the accommodation thus afforded was too costly and limited to be largely availed of by the masses. That which the coach could not accomplish was, however, easily achieved by the "train of coaches," or as it was afterward called "the train," propelled by steam and drawn on iron rails. Then for the first time did the civilized nations of the earth acquire their present freedom of movement, and while pack-horses carried their thousands and stage-coaches their tens of thousands, railways conveyed their tens and hundreds of millions.

In connection with progress I will here transcribe from one of my former works a few remarks on power, without which, indeed, there could be no such thing as progress.

Power is strength. The practice of virtue and energy always in exercise is oracular republican power.

Original forces, strong, varied, and numerous, characterize the American continent and people. These forces, combined by an exact discipline, free from mutiny, and handled with ever-vigilant valor, rectitude, and wisdom, invest them with a supreme conquering power.

To command the gold and silver production of the world, and to combine this with an intelligent policy, is to rule the world. The present ability of the American people to do this will become manifest so soon as the geography of the North American continent shall become correctly understood by them, and its economical development be made a systematic policy.

A few standard facts in physical geography and geology being currently grafted in to guide the popular mind, the ease with which the people of America will rise to the pinnacle of power and empire, and the necessity incumbent upon them to do so, become both simple and luminous of comprehension.

The American people have established for themselves, by right, and not by concession, universal male suffrage, universal education, universal religion, universal labor, universal gold. They have also one universal language.

These stupendous forces of civilization hourly expand. They gain elasticity, coöperation, perpetuity. Peace and progress accompany them.

The pioneer army of the people advances with miraculous celerity, order and self-discipline. Incredible conquests are achieved. In number two millions strong, self-governed, self-fed, self-armed, self-commanded, it plants empire in the wilderness by a system of colonization at once perfect and inscrutable. It moves with the steadiness, weight, and forward pressure of an ocean.

One thousand each day, three hundred thousand annually, of the selected and able-bodied laborers of the external continents land upon our coasts. These displace our own people, who perpetually move up to recruit and reinforce the pioneers.

The pioneer army is not deficient in any arm or in any kind of equipment. The construction of railways accompanies and keeps up even with its front. Each year witnesses the foundation of a new state; each month beholds the location of a new city site. The work of organization and of building is commenced and proceeds undisturbed.

Neither blunders, nor cessation of motion, nor tumult are ever seen. Society, in all its elements, corrects, transplants, and expands itself. It is neither broken asunder nor detached. Its purity is reinvigorated and sustained; its lands and atmosphere are fresh. Household ties and social and political bonds are enlarged, but remain undisturbed.

All movements result in an intensely accumulating volume and consolidated strength. The temper and discipline of action and of moderation are unruffled and unrelaxed.

To the American who visits the British isles for curiosity and observation, an astonishing spectacle is revealed. He encounters, in severe disproportion, glittering wealth contrasted by appalling poverty and squalor. These small islands, begirt and isolated by the seas, contain over thirty million of people, confined like bees within a hive, and similarly in motion. Like bees they depart from home, swarm over the world, and bring back its honey.

To reach India and return, they four times cross the equatorial heats, twice double the antarctic capes, and circumnavigate the globe. At this extreme distance they hold under military and industrial peonage two hundred millions of laboring people.

To this is due their dictatorial control over the oriental nations, over the oriental labor and commerce, and over the resulting transportation upon all the oceans. Within the British isles, the machine force, chiefly steam, is equal to the labor of six hundred millions of men, working ten hours each day, round the year. Neither meat, cereals, nor forage are consumed, but only fuel.

Within the home area, this stupendous machine force is systematized and brought into coöperation by a network of railways. It is prolonged over all the oceans, and penetrates to every extremity of the land, by a marine of steam and sailing ships. It is thus explained why and how British power consumes the wealth, the liberties, and the labor of India; why it has lately menaced the absorption of still more populous China. How activity is multiplied by machine force may be thus illustrated: In 1832, the aggregate passengers moved in the city of New York was 170,500; in 1872, the aggregate has been sixty-one millions; in Philadelphia, thirty-seven millions.

But in the British isles is an area of land restricted to pigmy dimensions; insufficient bread; no production of groceries; no raw material of cotton; no ores, except tin and iron; exhausted fuel; a population, paralyzed by want, unable to labor; no room; no elasticity; no democratic vigor possible. Railways are incapable of extension beyond her shores. Sterile seas isolate her from all her colonies, and from what employs the labor of and feeds her home population.

This prosperity and this power is artificial. It rests on a variety of foundations alarmingly fickle and perpetually shifting. It is maintained by exhausting waste of its own forces, especially human labor.

It is the object of these pages to bring into relief and to gain recognition for the facts and forces of our domestic America in geography, in society, and in politics; to inflame the popular taste for their appreciation, their unanimous use, their exaltation; to make clear the magnitude, the beauty, the grace, the fitness for perpetual unity and concord, of the sublime architecture and of the perfect anatomy of our continental home.

It is not invidious to glance the eye over the pigmy states that checker Asia and Europe. Each one is stagnant, devoid of inherent elasticity, and denied any margin of expansion. Expatriation or the slaughter of war alone fans hope.

To attain the level of polished barbarism in society, military despotism in politics, and then decay, exhaust the vicious rotation of their revolutions, their hopes, and their fortunes. The possibilities of progress are negative, stingy, and illusory.

For us, wanton wars of slaughter, arson, and rapine have ceased. Industrial energy assumes supreme sway, and—prescribing organization and discipline—acquires the ascendency to forestall and to dethrone the anarchy and atrocious waste of wanton war. Who can behold without intense chagrin the obscene tragedies of two decades enacted around Sebastopol, around Richmond, and around Paris? Cities destroyed; states and their populations incarnadined in their own blood; the gates of Janus thrown wide open; those of mercy shut upon the world.

In contrast are arrayed the benignant works of the pioneer army of the people. An empire of fresh and free states created and expanded from the Mississippi to the Pacific sea; cities built; works of unparalleled grandeur and utility erected and completed; the oriental population summoned and voluntarily accepting fraternal affiliation; a resounding and elastic commerce spread broadcast over the Pacific sea, heretofore silent. Mankind is enriched with gold, and is everywhere reinforced with wealth, credit, hope, and resolution.

Such are the charitable and resplendent conquests won by the aggregated forces and energies of a continental people, all individually free, independent, and self-governed. Such are the incalculable fortunes which now gestate upon the arena of the American continent, secure in healthful unity, magnitude, and perpetuity.

Power and universal progress come united and together into the possession and guardianship of the American people. They are rectified; they coöperate and conquer. Humanity throughout the world, cheered by example and its reflection, unfolds the wings of progress without trepidation.

It bounds onward, fearless, intrepid, and successful. It pushes out of sight every restricting horizon. It revels and exults over an unlimited arena, to which wise charity, benevolence, and courage refuse to assign a term.

Machine forces emanate from free intellect. They multiply and reflect back to it aggressive arms and strength. They infuse themselves and permeate everywhere, as an all-pervading magnetic essence. They unify and fuse mankind. They multiply the activity of all desirable relations infinitely in volume and in strength. They exalt civilization. They generate elasticity, ambition, fire. They give lustre to the reinvigorated labor and industry of the world, with unlimited triumphs and conquests.

The odious separation of men into aristocrats and plebeians disappears. Dependence becomes distasteful; it ceases to be voluntarily practised or submitted to. Democratic society establishes itself upon the level of universal patrician equality and patrician rights. These are unanimously accepted and maintained in practice.

Famines, and the terror of famines, have ceased. Epidemic diseases are controlled, and their malignity extirpated. Charitable inventions multiply, because multitudinous capitals of money in the small are enabled to purchase and enjoy them.

Machine forces infinite in number, application, and capacity appear. The reaper, the sewing-machine, locomotion by steam on land and water, cotton goods, give luxury, taste, and merited indulgence to the democratic multitude. Gas, fuel, and machinery economize warmth, light, and water; they spread unstinted enjoyment of them everywhere. Multiplied millions are provoked to travel.

What alacrity, what elasticity, what vigor! What stupendous new and fresh forces have been unveiled! What inspired, what victorious, what conquering energies! How generously is activity in each subtile atom of society reinforced! What celerity of motion! What vivacity of progress! How charitable and auspicious are these gifts and discoveries to all humanity! Strifes that have deformed society disappear. Rural intelligence and moderation resist successfully urban rapacity. Asperities are modified and conventionalities are, by mutual consent, arranged and accepted. With what ease do order and discipline assert themselves!

Power then assumes new features, enhanced dimensions, and increased sway. It is minute, active, and prompt to protect right and to restrain the vicious. The American people invest themselves with the creation and administration of power. They use it without fear and without limit, and themselves control and moderate its exercise.

They refuse tyrants, and with the same sternness refuse slaves. They found and perfect the policy of peace, because peace is more valuable and more enduring than the policy of war. The people and the activities of the continental and of the maritime climates, blended together, mutually reflect through and favorably stimulate and modify one another.

Let us recall again the sublime amphitheatre occupied by the American people, impregnably set in the midst of all the populations of the world, and environed all around by them.

The compact, insular form and concave structure of the continent; the climatology, tenfold auspicious; the graceful unity of the entire area, and its varied but uniform usefulness and fertility; the intense economy in quality, in magnitude, and in proximity of contact—these are all the reverse of what is elsewhere found. It is possible, from this position, mentally, to look out over the globe of the earth, as a bright school-boy handles his cricket-ball.

Here is a capacity to produce and to supply the raw material, in every subtile variety, to employ the labor of all mankind, food to feed the world. The omnipotent and diversified power of democratic freedom, erected, codified, and perpetuated by itself, is here first seen in human experience.

Metaphysical politics and its rhapsodies are rejected by the American people. They carefully hive the results of physical science and of inductive reason. Fortified by discovered facts of experiment and example, these are unanimously cherished, relied on, and adhered to by them. Upon this basis they successfully progress in the construction of empire.

The retrospect over Europe is, for us, deceptive and treacherous. Insight into the interior system of continental China gradually reveals itself to us and is understood. In Europe, military organization and force have always successfully held sway, and will continue to dominate and destroy. In China, civic organization, and a discipline of the national intellect by universal education, yield the grandest political results. Fifty centuries of accumulating growth, and four hundred and fifty millions of homogeneous population—one third of the human race—attest the benign power of universal education, and the systematic utilization of ascertained merit. The basis of the Chinese is a fickle and vague literature, monotonous and sterile. Physical science has not been discovered by them, nor reached in practice.

Intermediate between these ancient and imperfect societies, American society is fresh, pliant, and ductile. It commences its career upon a foundation of truths discovered and accepted from nature. The hope of perpetuity is strong. Abundant precedents admonish what to accept and adopt—what to reject.

Equilibrium among details, which is the essence of order among the forces of the universe of nature, makes itself by degrees known to us, and is adopted in the self-adjustment of the department of human organization.

Examples of what has been accomplished by liberty, under the spasmodic and imperfect opportunities, crippled by hostile geography and pigmy power, in the republics of antiquity, in China, and in modern England, predict the crowning mercy of success to the American people. The pressure and drift sometimes vouchsafed to humanity by almighty power is with us and is favorable to us.

Centralization, rightly understood and cleared of all sinister interpretation, will secure and protect society from mutiny and waste.

Power, benignant power, inherent in, possessed and administered by, the people, will by cautious progression discover and adjust the equilibrium of forces. The empire of our continental geography; the empire of our free people; the empires of our political, of our social, and our religious sentiment; the empire of our industries—for all of these will be found mutual concord, self-sustained; unlimited expansion; perpetual buoyancy, and perpetual life!

Thus will be corrected and closed the sanguinary gestations of the chaotic world behind us, from which we are born, and of which we are the healthy and gigantic offspring.

CHAPTER VII

RACE PROBLEMS AND PROCLIVITIES

Along the axis of the isothermal temperate zone civilization has made the circuit of the northern hemisphere. Here the continents expand and the oceans contract; here is the zodiac of empires; and here are found the metropolitan cities of the world, from Pekin on the western to San Francisco on the eastern shore of the Pacific. In the days of antiquity the belt was narrower, not extending beyond the north African coast, the Pontic sea, the Danube, and the Rhine; but along this belt, with a more or less perfect development, civilization was planted from the verge of oriental Asia to the western extremity of Europe. In America, civilization has advanced in denser form and with greater celerity than in any other country in the world, and here are found the chief centres of intelligence and power, the greatest intensity of energy and progress. It is along this belt that the principal railways of the world have been placed, and which the Cosmopolitan Railway will in due time connect.

The grand distinction of modern times is the supremacy of the Aryan nations. During the last five hundred years, the races that have acquired new new territory and have planted new colonies, that have made grand discoveries in the scientific world and have invented machines, that have written books which the world will not willingly let die, and have collected the wisdom of the ages in vast libraries, are all members of the great Aryan family of nations. If we go back two thousand years, we find Roma, one of Arya's elder daughters, not only dominating over the nations which dwelt in the basin of the Mediterranean, but extending her sway to the Atlantic and to the North sea. Still another backward step of three hundred and eighty years brings us to the battle of Marathon, which marks the beginning of Hellenic supremacy, and fifty-five years anterior to this battle, Cyrus, the king of Persia, began his Asiatic conquests. European scholars have inferred from astronomical data that the composition of the hymns of the Rig-Veda, which celebrate the struggle between the blue-eyed and light-haired Aryans and the black-skinned indigines of the Punjab, took place at least 1400 B. C. In the words of Doctor Hunter, "the Aryan tribes in the Veda are acquainted with most of the metals. They have blacksmiths, coppersmiths, and goldsmiths among them, besides carpenters, barbers, and other artisans. They fight from chariots, and freely use the horse, although not yet the elephant, in war. They have settled down as husbandmen, till their fields with the plough, and live in villages or towns. But they also cling to their old wandering life, with their herds and cattle-pens. They have learned to build ships—perhaps large river-boats, and seem to have heard something of the sea. They marched in whole communities from one river valley to another, each house-father a warrior, husbandman, and priest, with his wife, and his little ones, and cattle." Caste and the burning of widows on the husband's funeral-pile are unknown customs in the Rig-Veda, women enjoying a high position, and being joint rulers of the household with their husbands.

Thus a period of three thousand three hundred years has elapsed since Arya's children sprang from obscure village communities, and from herders of cattle developed into great nations. Like all other races just emerging from semi-barbarism, they had their backward as well as forward movements, but little by little, sometimes in obscure corners and in waste places, the work of civilization went on. Roman culture, declining and deteriorating *pari passu* with the decline and fall of the empire, was nearly overwhelmed by comparatively barbarous hordes from the north and east, most of whom were of Aryan origin, the Huns and Arabians sinking into insignificance beside the vast numbers and martial prowess of the Goths, Franks, Burgundians, and Teutons who overran the whole of Europe, and whose descendants possess and rule it to-day.

> "They anon,
> With hundreds and with thousands trooping came.
> . . . . . As bees
> In spring-time, when the sun with Taurus rides,
> Pour forth their populous youth about the hive
> In clusters; they among fresh dews and flowers
> Fly to and fro. . . . .
> So thick the barb'rous crowd
> Swarmed and were straitened."

But, like the fabled phœnix, these motley tribes, true to the instincts of their race, arose in greater splendor from the ashes of Roman civilization.

The migratory propensity of this race is one of its dominant characteristics. It has, of course, its periods of repose as well as its periods of progress. Doubtless the discovery of America, which afforded the Aryans such vast fields for colonization, retarded the reclamation of Africa and Asia. But a new migratory wave within the last decade has swept over Arya, and before it shall have subsided, the greater part of those continents will doubtless be dominated, colonized, and rapidly civilized by that race, which, starting from the mythologic twilight through Aryana Vaëjo, has established itself in every part of the world where the sciences and the arts industrial and æsthetic have attained greatest perfection. What the old Roman roads and aqueducts were to the greatest of ancient empires, the railroads and the systems of irrigation are to the Aryans of the nineteenth century. The most advanced and comprehensive scheme of the age is a cosmopolitan railway which shall girdle the globe. Not till that shall be accomplished will Aryan supremacy be secured.

From age to age new problems arise, and vary with advancing culture. In Charlemagne's time the great questions of the age were the conquest of the Saxons and the enlightenment of the Frankish kingdom. After the discovery of the Americas, the problem engrossing men's minds was the rapid colonization and development of these new lands. At various periods of the world's progress a still more important question has agitated the races that throng hither and thither upon the face of the civilized globe. So old is it that when the stones that were used in building the massive temple of Karnak were still lying undisturbed in their quarries, and when the Parthenon was standing in all its glory, that question was not young; so modern is it that when Michael Angelo was building St Peter's and Sir Christopher Wren was restoring St Paul's, nay, even now, when the stone-cutters are at work upon our own less pretentious but far more beautiful structures, it was and is a living question. It is as to who shall gain and permanently hold the possession of the isothermal temperate zone of the northern hemisphere. As I have said in my *Mission of the North American People:* "Along this narrow belt civilization planted its system from oriental Asia to the western extremity of Europe with a more or less perfect development. Here are the chief cities of intelligence and power, and the greatest intensity of energy and of progress."

Since civilization began, the five families which have competed for the mastery of this zone, which has been called the zodiac of empires, are the Hamites (typical race, Egyptians), the Monosyllabics (typical race, Chinese), the Semites (typical races, Phœnicians and Jews), the Ural-Altaics, or Turanians (typical race, Turks), and the Aryans (typical races, Greeks, Hindoos, and English). But each one of the races which contended for this isothermal zone marched by a different route toward civilization, and each differs from the others in family relations and in principles of law, government, and religion. The soil of Asia and Europe has been deluged with their blood, shed in senseless conflicts, but the Hamitic is the only race that has been practically extirpated. Four other races still remain, and the question as to which one is entitled to the exclusive possession of that zone still remains unsettled. At some period in the world's history, each of these races has had its heroes, its historians, and its philosophers. At some period, too, each has had some literary centre, at which the others congregated to learn the arts and sciences; or if it has been exclusive, as in the case of China, it has disseminated by its caravans and commerce, its products and manufactures, over less civilized realms. Herodotus describes the jealous dislike of foreigners displayed by the Sericans, who peopled what is now the northwestern border of the Chinese empire, in their trade with the Scythians. "The Sericans deposited their bales of wool or silk in a solitary building called the stone tower. The merchants then approached, deposited beside the goods a sum which they were willing to pay, and retired out of sight. The Sericans returned, and if satisfied with the bargain, took away the money, leaving the goods, but if they considered the payment insufficient, they took away the goods and left the money."

A thousand years before Homer and David were born, Se-ling-she, the wife of Hwang-te, unravelled cocoons and was working their fine filaments into cloth, while Yaon, who might be styled the Chinese Alfred, was teaching the principles of virtue to his people; in Egypt the fourth dynasty were building the pyramids, and in Chaldea the astronomers were calculating eclipses. When the Greeks were celebrating their first olympiad, and Rome was but a border town of shepherds, the Semitic races were conquering and founding in Asia cities like Nineveh and Babylon, and Sargon was building the wonderful city and palace of Khorsabad. Up to that time, the

Hamites, the Chinese, and the Semites were the great leaders of civilization, but the Hamites and the Chinese were not migratory. Tyre, the great capital of Phœnicia, was spreading her wares before the barbarians, was forming colonies, and was teaching the alphabet to scholars throughout the world. Was the new civilization to be Semitic? Homer's songs were sung in many a household, but like their typical hero, the haughty Achilles, the Aryans brooded in their tents and let other chieftains conquer if they could. But they were only waiting for the armor that mother nature was preparing for them.

The history of their civilization since that time is the history of the world and of the world's progress. First Persia, then Greece, then Rome, mostly single-handed, were the civilizers of the globe; but modern history, with its score of Aryan nations—each one of which has developed in some particular direction—has a brighter page to show. Some instinct led the various Indo-European tribes that peopled Europe to insist upon securing that continent for their permanent home, and all attempts of other races to settle within those boundaries were regarded as hostile to the whole race. The Indo-European Monroe doctrine might be rendered thus: Any attempt by the Arabians, Semites, Turanians, or Mongoloids to gain dominion in Europe will be considered by all the Aryan races as an unfriendly act. Charles Martel was the first to advance and act upon that doctrine, at the battle of Tours, 732 A. D. His attitude and his success in conquering the able Saracen leader, Abderrahman, were the more surprising, since at that date Gaul was not yet France, and in the words of Creasy, "no settled system of institutions or government, no amalgamation of the various races into one people, no uniformity of language or habits, had been established at the time when Charles Martel was called to repel the menacing tide of Saracenic invasion from the south." This Aryan doctrine has been so steadily enforced, and the migratory and colonizing tendencies of this race have been so successful, that in this last decade of the nineteenth century the Aryan peoples may be said to have exclusive control over the Americas and Europe —since the Turk only remains in Europe by sufferance —and to be rapidly gaining dominion in Asia, Australia, and Africa.

The continent of Asia, which is peculiarly the home of the Turanian and Mongol races, and which contains that anomalous land Arabia, which has for centuries defied alike the arms and the industrial implements of civilization, is one of the great obstacles to the improvement of the whole globe. In the words of Charles Morris, an ethnologist who has written an excellent little volume upon the Aryan race: "Since history began, Arabia has remained in an almost unchanged condition. Militant civilization has raged for thousands of years in the surrounding regions, but Arabia has lain secure behind her deserts. Kingdoms and empires have risen and fallen everywhere around the silent peninsula, yet the waves of war have broken in baffled fury upon its shores. It has poured out its hordes to conquer the civilized world, but these have brought back no civilization to its oases. It is to-day what it was three thousand years ago, a land defying alike the sword and the habits of the civilized world. The Egyptian, the Mongol, the Turk, and the Aryan have alike retired baffled from its borders and left it to its self-satisfied sleep of barbarism. Is this to be the story of the far future, as it has been of the far past? Shall civilization never penetrate the Arabian desert, and Aryan rule and Aryan commerce stand forever checked at the edge of its deadly wall of sand? Hardly so. Modern civilization has resources which even the desert cannot withstand. A plan to conquer the desert has already been tried in the Soudan, and a similar one in Algeria. The railroad and the water-pipe may accomplish that task in which all the armies of the past signally failed."

On the other side of the Asiatic continent may be found the oldest living nation of the world, the exact antipodes of Arabia. M. Poussielgue has described the Chinese methods of cultivating every patch of land, in the following terms: "In the province of Petche-li, where land is very much cut up into small lots, agricultural operations are conducted on a limited scale, but the intelligent manner in which they are carried out makes up for the inconveniences of the parcelling out. But few villages are seen there, but in compensation for their absence a quantity of farms and farm-houses nestle here and there under the shade of lofty trees. The buildings take up but little room, and so economical are the peasants of the soil that they place their hay-ricks and their wheat sheaves on the flat roofs of their dwellings. If, however, they are saving of the soil, they are not sparing of pains. Thanks to the abundance and cheapness of labor, they have been able to adopt a system of cultivating the earth by alternate rows, and thus never to let the ground lie fallow, but to have a succession of crops during the whole summer. Between the rows of the sorgho (*holcus sorghum*), which reaches a height of ten or twelve feet, they sow a plant of lesser growth, the smaller kind of millet, which thrives in the shade of its gigantic neighbor. When they have reaped the sorgho, the millet, exposed to the rays of the sun, ripens in its turn; they plant rows of beans in the midst of their maize-fields, and the former ripens before the latter—of slow growth—is big enough to choke them. They plant the earth they dig out of their draining trenches with castor-oil or cotton plants, whose large green leaves make a kind of hedge to the corn-fields, and when the soil is barren and full of stones they plant it with the resinous pine, or with the cathsé, an oily plant that flourishes on the poorest ground."

In respect to the advantages of their mode of pisciculture, the same author has written as follows:

"Water in this province is as little neglected as the land. Pisciculture is practised on a large scale, and in the most intelligent manner. When spring returns, a quantity of venders of fish-spawn perambulate the country to sell this precious spat to the pond-owners. The eggs, fecundated by the milt, are carried about in small barrels full of damp moss. These spawn-sellers are followed by hawkers of young fry—skilful divers, who catch in very fine nets the new-born fish reposing in the holes in the river-beds. These fry are reared in special ponds, and disseminated when they have grown bigger in the lakes and larger pieces of water. The Chinese have succeeded in rearing and preserving in artificial basins the most interesting and most productive species of their rivers. Morning and evening the keepers bring herbs and grains for the fish, which greedily eat them, and which soon reach a considerable size, thanks to this fattening diet. A lake managed in this way is a greater source of revenue to its owner than the most fruitful fields."

M. Figuier says: "Agriculture to the Chinese is more than a calling: it is almost a religion." It is as if the Chinaman repeated to himself the words of the old Persian law: "Be thou just to the plant, to the bull, and to the horse; nor be thou unmindful of the dog. The earth has a right to be sown; neglect it, and it will curse thee; fertilize it, and it will be grateful to thee."

The excessive exclusiveness of the Chinese is a great bar to their advancement, and would be the principal barrier to the projected Cosmopolitan Railway, should the road undertake to run through their lands. Whatever intercourse with the outside world is now allowed by that jealous nation has been forced upon them, and doubtless they would resist for many years any such railway project that might be proposed, no matter how much they would as a nation be benefited thereby. The question is asked over and over again, "How is it that China, which in by-gone ages was the first discoverer of many of the mechanical and chemical arts, takes only a second rank to-day among civilized nations?" The causes are various; but still, when all are told, there are ethnologists who believe the Chinese incapable by nature of appreciating and apprehending the highest forms of culture; that there are racial instincts and proclivities that are ineradicable. But the causes that have hindered their advancement in modern times may be briefly summed up as follows: 1. Non-intercourse with other nations; 2 Their monosyllabic language; 3. Their hieroglyphic writing; 4. Their despotic government, continuing through twenty dynasties; 5. The degradation of the women; 6. Their system of jurisprudence, and treatment of criminals; 7. Their love of gambling, which is common among all classes of that people; 8 The debasing elements of their religion. Let America take warning, particularly in regard to the first and the last; for in excluding the Chinese we are imitating the barbarisms of the middle ages; and as for our religion, it is becoming quite effete before our advancing civilization.

Modern civilization owes much to world's fairs, commercial intercourse, and the clash and criticism of opinions. The isolation of the Chinese from the rest of the civilized world has made them as unprogressive as provincials. A modern writer has said that "the Chinaman of the future will undoubtedly be a higher order of being than the Chinaman of the present. He cannot but have new ideas, new hopes, new desires, new habits. Into his dull practicality some higher degree of the imaginative and emotional must flow from connection and association with the Aryan type of man. It will undoubtedly be a slow process to lift the Chinaman from the slough of dead thought in which he has so long lain. Yet we are dealing with the far future; and to an industrious, practical, and thinking people everything is possible." Sir Garnet Wolseley has great faith in the Chinese, and thinks that some day they are going to be a great nation, and will possibly make trouble for Europe. He says they possess every military virtue, are stolidly indifferent to death, and capable of any amount of endurance. Another ethnologist thinks that "the awakening of China must be too late to give her any large share of the prize of commercial wealth and of dominion over new lands. Where the Aryan has firmly set his foot, the Chinaman can never drive him out."

Their monosyllabic language has doubtless fettered their imagination. Their language is without inflections, and the nouns, verbs, and particles must occupy a fixed position in their sentences. In every Chinese sentence the subject comes first, then the predicate, followed by the complements. The adjective precedes the noun, the adverb precedes the verb, and the preposition the word governed by it. These laws of position are inexorable, and cannot be departed therefrom without sacrificing the sense. It is, therefore, a language admirably adapted to the short, pithy sayings of philosophers, and to the exact statement of facts; but not to the higher flights of imagination of which the polysyllabic languages are capable. Portions of the Bible, the works of Bacon, of John Stuart Mill, and of Emerson, and brief historical and scientific works, might be translated into Chinese with a fair degree of success; but De Quincey, Ruskin, Théophile Gautier, or Jean Paul Richter, would wholly lose their flavor in a translation into that tongue. Robert K. Douglas, professor of the Chinese language and literature at Dublin university, says in a recent article "that the lack of that power of expression which is given by syntactical motion has been accompanied by a blighting influence on the imaginations of Chinese authors. Other causes are also to some extent responsible for this result; but a careful study of the various branches of Chinese literature will show that those which are most dependent for their successful development on the powers of imagination are those which least repay attention."

Another cause of the want of imagination in Chinese literature may be attributed to their intense admiration and veneration for Confucius. It is remarkable that all the fathers of Aryan literature were poets; and it is impossible to tell, except by comparison with such an unimaginative nation as China, how much the epic poems of the Ramayana and the Mahabharata, the Iliad, and Odyssey, the Divina Commedia, and the Nibelungen Lied, have stirred the imaginations of the Aryan peoples, and have lifted them up above the dead level of ordinary life into which the Chinese seem to have grovelled. To some extent we may see that the want of early national indigenous epics affected Latin and French literature. The Latin never rivalled the Greek, and the French has never rivalled the English, in virility and naturalness; while the revival of the old stories of the Nibelungen Lied by Wagner, in his trilogy, *Die Walküre*, *Siegfried*, and *Die Gotterdämmerung*, remind us of the second revival of the Homeric tales by that triad of Greek dramatists, Æschylus, Sophocles, and Euripides. Those who have traced the growth of literature from their earliest sources know how much depends upon a noble beginning. Unfortunately for Chinese literature, it practically began with a formal, tedious, long-winded philosopher, who might be compared to no other Aryan writer so well as to the "moral Gower." Or if one can imagine the elder Cato setting himself up as the founder of a new philosophy, and travelling from Gallia Cisalpina to Magna Græcia, gathering disciples and trying to induce some ruler to listen to and to practise his teachings, one can imagine the character of Confucius. "If any ruler," Confucius once said, "would submit to me as his director for twelve months, I should accomplish something considerable; and in three years I should attain the realization of my hopes." They cared no more for him living than the Grecians cared for Homer, or the Florentines for Dante; but after his death they bestowed upon his memory, his teachings, his works, a more exaggerated love, honor, and reverence than have ever been bestowed upon any other human being. A story is told of Théophile Gautier's extravagant reverence for Victor Hugo which will illustrate my meaning. It is claimed that Gautier once said: "If I ever had a thought that my master, Victor Hugo, possessed a single fault, I should not dare to acknowledge it even to myself, alone, in the midnight darkness and solitude of a vault." Similarly, few Chinamen would have the temerity to acknowledge, even to themselves, that Confucius ever made a mistake, or was ever guilty of laxity. His followers recorded his sayings and the principal events of his life with the love and veneration of a Xenophon, and with the attention to details and trivialities of a Boswell. And still in this nineteenth century the Chinese repeat the quatrain:

"Confucius! Confucius! How great was Confucius!
Before him there was no Confucius,
Since him there has been no other.
Confucius! Confucius! How great was Confucius!"

Modern research and criticism have destroyed many myths which long had masqueraded as historic facts, and one of the latest discoveries in the world of criticism is that Confucius' "Ch'un Ts'in," or "Spring and Autumn annals," which was so lauded by his disciple Mencius, and the sentences of which his countrymen have for centuries committed page by page to memory, is not a great historical work. Not only does it rank far below Thucydides and Tacitus, but even the prolix and prattling Herodotus would feel ashamed to be classed as an historian with this Chinese sage. The whole work may be read in less than three hours, and the expectant student who takes it up with bated breath, and feeling that he is about to commune with one of the great spirits of antiquity who still rule us from their urns, finds to his disgust that he is conning merely a bald summary of events without character, without coherence, without style. More than this, he discovers that some important facts are distorted, and that others are ignored. So many events of Chinese history has he misstated and misrepresented in this brief epitome, covering a period of two hundred and forty-two years, that many modern European scholars would be glad to find that the work was spurious.

Such of Confucius' sententious sayings as: "In style, all that is required is that it convey the meaning;" "The cautious seldom err;" "Extravagance leads to insubordination, and parsimony to meanness." "It is better to be mean than insubordinate"—have done much to form and partially to deform the Chinese character. A Chinese literature existed before the age of Confucius, even as the Anglo-Saxon literature, with its "Song of Beowulf," "The Battle Song of Brunanburh," and the works of Cædmon and Bæda preceded Chaucer, "the first founder of our faire language." And the ballad poetry of that early Chinese period is said to be the most striking and original collection of ancient ballads in the world. There are also some pleasing idyls that illustrate rural domestic life and its struggles; but the dramatic, the epic, and the higher forms of narrative poetry do not exist in Chinese literature.

Perhaps I could not make a better ending of my remarks on the peculiarities of the Chinese than to quote the Marquis de Moges' summing up of the difference between the eastern and the western civilization: "In China, the magnetic needle points to the south; the cardinal points are five in number; the left hand is the place of honor; politeness requires you to keep your head covered in the presence of a superior, or in that of a person whom you wish to honor; a book is read from right to left; fruit is eaten at the beginning of dinner and soup at its close; at school, children learn their lessons aloud, and repeat them all together;

their silence is punished as a sign of idleness; and finally, a title of nobility conferred upon a man for some signal service rendered to the state does not descend to his posterity, but goes backward and ennobles his ancestors."

The transition from China to Japan is pleasing to an American. In many things, however, the inhabitants of the two countries resemble each other, as in buildings, junks, food, many of the measured cries in the streets, and the written characters; but here the resemblance ends. The Japanese have a finer sense of honor, are more teachable and affable, and in every respect seem to be of a higher type than the Chinese. The head is better shaped, and the features are more regular. In the nobility the features are often delicate, and the complexion white. One would naturally expect to find the languages identical. John Fiske says, however, that "in reality, no kinship has yet been detected between the languages of China and Japan." But there can be no doubt that the Japanese belong to the great Mongoloid family. Their insular position, however, and their innate love of art, have united to make their civilization wholly unique. The London international exhibition of 1862, and the subsequent exhibitions at Paris in 1867, at Vienna in 1875, and the great Paris expositions of 1878 and 1888, have fully established the fact that although the Japanese learned their arts from the Chinese, they have far surpassed their masters in delicacy of touch and in the art of decorating household articles, by following nature, and yet adhering to conventional form. In the art of decoration they are unsurpassed by any nation upon the globe. Many of our own artistic *motifs* are too elaborate; the Japanese show us the beauty of simplicity. A single flower or a bird with a few blades of grass or flower stalks are often more beautiful and appropriate for household ornamentation than an elaborate scene. So in their mode of decorating their houses with flowers, one never sees circle after circle of elaborately arranged bouquets of many flowers, but a single spray or flower, the whole beauty of which is discernable to the eye. Sir R. Alcock, in a recent paper upon Japanese art, says: "The faculty of making common and familiar things tell pleasurably upon the ordinary mind, by little artistic surprises and fresh interpretations of the common aspects of natural objects and scenes, is especially their gift, and a gift as valuable as it is rare. It is not, however, a picture so much as a decoration that they produce; but it is a decoration full of beauty in its harmonized tints and graceful freedom of design. The Japanese artist especially excels in conveying an idea of motion, in the swift flight of birds, and gliding movements of fishes, one of the most difficult triumphs of art." But Japanese art has its limitations. Perspective and the perfect delineation of the human figure are unknown to them. Their art is a little world, peculiarly its own, handed down from remote ages, and is all the more admired because it is wholly unlike the Aryan or Turanian development.

Japanese manners are more demonstrative than those of the Chinese; their family affections are not wholly centred upon the aged living and the ancestral dead. Japanese parents have a peculiar love for their offspring. One may often see in the villages a row of fathers basking in the sun, each with a little child in his arms. When the children are at their games the parents watch them with interest, and are proud of their skill in writing, drawing, and painting. In obscure hamlets, the principal inhabitants secure a teacher for their children—one gives him clothes, another board and lodging; those of the poorer classes who can afford it give monthly fees, while the poorest get education for their children gratuitously.

The following is taken from the Japanese code of morals for women: "When a girl is unmarried, she shall reverence her parents; but after marriage her father-in-law and mother-in-law more than her own parents. Morning and evening she shall inquire after the health of her father-in-law and mother-in-law, and ask if she can be of any service to them, and likewise do all they bid her; and if they scold her she must not speak. . . . A woman shall always keep to her duty, rise early, and work till late at night. She must not sleep during the day, must study economy, and must not neglect her weaving, sewing, and spinning, and must not drink too much tea nor wine. She shall not hear or see any such lascivious thing as a drama; before reaching the age of forty women shall not go to those places, nor to where many people collect, such as a temple or a shrine."

Old Japan has ceased to exist. The Japanese are the only oriental nation who are anxious to give up their own civilization for another. Their pretty costumes, their stately etiquette, and their art will be greatly modified and perhaps wholly lost by the adoption of European ideas and opinions. Is this wave of popular enthusiasm for Aryan manners and customs and religion likely to be permanent, or only ephemeral in its effects? The author of *Unbeaten Tracks in Japan* sees no reason to distrust the permanence of a movement which has isolated that country from other oriental nations, and which, in spite of very many extravagances and absurdities, is growing and broadening daily. The civilization which comes from the far west in the nineteenth century is not a more sweeping wave than that which came from Corea in the sixth, and is likely to produce equally enduring results.

Proceeding on its westward way, the Cosmopolitan Railway in due time comes in contact with the Turanian peoples, and among the first in central Asia, the almost innumerable tribes of Turkestan. This territory, extending half-way across the desert of Gobi to the Caspian sea, and lying mainly between parallels 36° and 46° of north latitude, was the earliest known abode of the Turks or Turkomans, and hence its name, "the country of the Turks." It is also called Jagata, and by the Persians Turan. The Khanates of Khiva and Bokhara are the most powerful divisions of this congeries of tribes, while that of Khokan is the most populous, and its soil the most fertile, and extending over a larger area.

The principal river is the Oxus, which rises in Sir-i-kol (Lake Sir), on the southerly edge of the Pamir steppe, 13,900 feet above the level of the ocean, and flows westwardly through Bokhara, and along the border of Khiva, emptying into the Aral sea. The scene of one of the most tragical stories in Persian literature is laid on the banks of the Oxus. The reader is referred to Matthew Arnold's poem of Sohrab and Rustum, which was originally told by Firduse, the Persian poet in the Shih Námeh, or Book of the Kings. Travellers all agree that there is no accounting for the peculiar freaks of this classic stream, which Matthew Arnold has described in the following stanza:

"But the majestic river floated on,
Out of the mist and hum of that low land,
Into the frosty starlight, and there moved,
Rejoicing through the hush'd Chorasmian waste
Under the solitary moon; he flowed
Right for the Polar star, past Orgunjè,
Brimming and bright and large; then sands begin
To hem his watery march, and dam his streams,
And split his currents; that for many a league
The shorn and parcell'd Oxus strains along
Through beds of sand and matted rushy isles.
Oxus, forgetting the bright spead he had
In his high mountain cradle in Pamere,
A foiled circuitous wanderer—till at last
The long'd for dash of waves is heard, and wide
His luminous home of waters opens, bright
And tranquil, from whose floor the new-bathed stars
Emerge, and shine upon the Aral sea."

With its alternations of lofty table-land and barren wastes, of fertile valleys and drifting sands, and its extreme variations of temperature and of products, Turkestan presents corresponding varieties in the members of the human family which there find their habitat. The population, which is estimated at about nine millions, is composed of the Uzbegs, who are the ruling class, their nomadic kinsmen the Kirghiz, hordes of whom inhabit the north and east, and the Turkomans of Khiva and the adjacent steppes, besides numerous other and less important tribes. The Kirghiz are most unattractive in appearance, stunted in stature, with high cheek-bones, flattened noses, and are almost beardless. The Turkoman is taller, more athletic, with white skin, while the Uzbegs are tall, well-formed, muscular, of a ruddy complexion, with broad noses flattened at the ends, and receding foreheads.

The commerce is considerable, considering the primitive means of transportation. All commodities are conveyed by beasts of burden, no vehicles being in use. Among the articles of traffic are silk and cotton stuffs, which they manufacture, and porcelain, tea, musk, and rhubarb, which they import from China, and European manufactured goods from Russia.

Large deposits of iron and the precious metals are believed to exist undeveloped, and await exploitation by those scientific mineralogists and artificers who will accompany or follow the Cosmopolitan Railway in its civilizing march. Among the existing cities, the largest is Bokhara, with a population of about 70,000. It is surrounded by a wall with eleven gates, and contains more than a hundred mosques, and about forty colleges. The state of intellectual development and moral elevation attained by this people may be inferred from the character of instruction given and the subjects deemed worthy of study. Besides a few books in logic and philosophy, the Koran is regarded as the repository of all real knowledge, human and divine. Poetry and history are deemed subjects too frivolous and even disgraceful to be cultivated by them. Khiva, the city and capital of the Khanate of that name, is situated in the fertile valley of the Amoo Darya, and its environs are most beautifully cultivated.

But the most celebrated of these cities is Samercand, in the valley of Zerafshan, four miles south of the river of the same name. Its population is about 20,000, and its site and surroundings are the most beautiful of any town in Turkestan. In classical geography it was called Maracanda, and was the capital of Sogdiana. It was occupied by Alexander the Great in 328 B. C. It was there he slew his friend Clitus. In the early part of the thirteenth century it was conquered, and its fortress destroyed by Genghis Khan; but about 1370 Tamerlane made it his capital, and under him it became the most famous and magnificent city of central Asia. With a population of 150,000, it was the centre of important manufactures, the emporium of trade, and the seat of eastern learning, there being forty colleges, one of which contained one thousand students. The remains of its former wealth and magnificence are yet to be seen, chief among them being the summer palace of Tamerlane, his mosque surmounted by a melon-shaped dome, his reception-hall containing the celebrated Köktasb, or blue stone, and his sephulchre, which is outside of the city.

This portion of Turkestan is now under the dominion of Russia, which is there, as elsewhere in western and central Asia, introducing slowly the germs of European civilization, the growth of which is destined to be so greatly quickened and strengthened by the advent of the railway.

Proceding still farther westward, we meet another and much more powerful and highly organized member of the Turanian family, in that immense territory known as the Ottoman empire. The dominating class, the Osmanli Turks, first make their appearance in authentic history about the year 800, taking possession of a part of Armenia, and thence pursuing a career of conquest until a consolidation of dominions under Othman, who assumed the title of Sultan, and established his empire at Prusa, in Bythinia, in 1298. In 1360 Thrace was conquered by Amurath I., who made Adrianople his capital, and by his successor, Bajazet, the most of the eastern or Greek empire was conquered; the capture of Constantinople in 1453 by Mahomet II., completing the downfall of Byzantine christianity. During the first half of the sixteenth century, in the reign of Solyman the Magnificent, Rhodes was taken from the knights of St John, Vienna besieged, and the king of Hungary made tributary to the Sultan, Bagdad reduced, and Assyria, Mesopotamia, and Tunis brought beneath Turkish rule. With this reign Turkish power and influence may be said to have reached their highest point.

The territorial limits of the Ottoman empire to-day embrace about 2,200,000 square miles, inhabited by some 34,000,000 people. These figures include the Turkish dependencies, as well as Turkey proper in Europe, and Turkey in Asia. As we have seen in other Asiatic and oriental peoples, with a fundamental racial unity discernable throughout, there exist innumerable minor diversities in the inhabitants of the various parts of this vast empire. That variant conditions of soil and climate affect the pursuits and character of the people subject thereto is so well established by scientific observation and induction that the fact need not be dwelt upon, and hence the proclivities of races, especially those of Asia. Those of non-Aryan origin in Europe and elsewhere are best seen through concise statements of their physical surroundings as well as of their distinctive individual traits. It has been truly said of Turkey that there are few countries for which nature has done so much, few whose resources have been so little developed, and hardly any in which successive wars and misrule have destroyed so much of the results of former activity, wealth, and magnificence.

In Asiastic Turkey much of the surface consists of elevated plateaus, many of which are scantily watered, and other regions, which were once of extraordinary fertility, are covered by the sands of the desert. There is scarcely any rainfall from April to September; and large portions of what would be the most fertile lands of Babylonia and Mesopotamia are virtually worthless from want of irrigation. Its immense resources are in general undeveloped. In varying quantities there are produced copper, lead, silver, emery, rock-salt, nitre, iron, coal, and indurated chalk. Salt lakes are numerous, the chief of which are the Dead sea in Palestine and Lake Van in Armenia.

Turkey in Europe is undulating or mountainous, but with a large proportion of arable land of moderate elevation. About forty per cent is arable and vine land, sixteen per cent meadow and grass land, and fourteen per cent forests. Climatic changes are very great, varying from almost arctic cold to tropical heat. The chief minerals are iron, argentiferous galena, copper, sulphur, salt, and alum.

The foundation of civil law and religious requirements is the Koran, and the relations of the sexes are subject to its rules, which authorize the possession of four wives. The poorer classes, can, however, hardly maintain one wife, and among the higher classes polygamy is not prevalent. Rigid confinement of women in harems is in accordance with the Koran, which enjoins seclusion and modesty and veiling of the face. Women of the higher classes dislike these restrictions, and are lightly veiled; but the masses of the orthodox Turkish women, especially in the interior, wear thick veils, revealing only the eyes.

The Osmanli Turkish dialect, as it is distinctively called, has been the dominant dialect in Asiatic and European Turkey for 500 years, but it is not by any means composed of purely Turanian elements. Under the powerful influence of the Arabic and Persian languages, every part of its vocabulary, and even some departments of its grammar, are filled with Arabic and Persian elements. It is a dialect made up of materials derived from those grand and totally disconnected families of languages, the Turanian, the Semitic, and the Aryan, to the detriment, of course, of its native character, by the corruption of its forms and the artificiality of its style. Notwithstanding all this, it has been said that a Yakut from the Lena could make himself understood at Constantinople.

Since the liberation of Greece, resulting from the intervention of the western European powers, and the battle of Navosino in 1877, by which the Turkish naval forces were almost annihilated, the sick man of the Golden Horn has been growing feebler from year to year, and the late war with Russia wrested from the Ottoman large and important portions of his empire in Europe. The consequences to flow from the impact of Aryan civilization upon its eastern as well as its western frontier by means of the Cosmopolitan Railway can hardly be over-estimated. By it the elements which have moved the higher development of the forces of man and nature in this land and among these Turanian peoples will be elimated, and what is of good will be conserved.

Crossing the boundaries of European Turkey, and entering the confines of the Austrian empire, we meet that illustrious branch of the Turanian stock, the Magyars, or Hungarians. As we learn from history, in the ninth century of our era this people descended from the southern part of the Uralian mountains, and settled on the plains of the lower Danube. They called themselves Magyars, but the Russians gave them the name of Ugri, as coming from Ugria, and this name has been corrupted into Ungri and Hungarians.

A great part of the soil of Hungary is very fertile, and the number and variety of its products are remarkable. Wheat is abundant and excellent in quality, and besides vegetables, fruits, including apples, pears, apricots, plums, and melons of exquisite flavor and immense size, are among its productions. It is also noted for many varieties of wine, among which is the delicious Tokay of the Hegyalja.

Within its limits almost every kind of mineral is to be found. Considerable quantities of gold aud silver are annually exported from the mines, and coal and iron are abundant. Fine marble quarries and precious stones of various descriptions are to be found in several localities. Until within a few years, means of communication were extremely scanty, good roads being scarce. Recently, however, large sums have been expended in the construction of railways by the government.

Manufacturing industries are considerably developed, among them the most successful being works in metal, glass, stone, and earthen-ware. The annual imports are estimated at about $225,000,000, and exports at $175,000,000.

The total population of Hungary is about 15,000,000, and in religion the Roman catholics are in an overwhelming majority. Of these 15,000,000 there are over 6,000,000 of pure Magyar race, the remainder being composed chiefly of Germans, Roumanians, Slovaks, Croats, Serbs, and Ruthens.

Since 1867 great improvements in educational matters have been made. Attendance at school is compulsory upon all children between the ages of six and twelve years. The schools are divided into four classes, common, middle, high, and special. Of the first class, there are about 16,000; of the second class, which consists of gymnasia and similar institutions, there are over two hundred, with some 2,500 teachers and 45,000 pupils. The third and fourth classes embrace the universities and polytechnic institutes.

Of the Magyar, or native Hungarian, language, E. D. Butler, of the British Museum, in his excellent monograph on the language and literature of Hungary, says that, although for a thousand years established in Europe and subjected to Aryan influences, it has yet retained its essential Turanian features, and the etymology and syntax still preserve these as their chief characteristics. Logical in its derivations and in its grammatical structure, the Magyar language is, moreover, copious in idiomatic expressions, rich in its store of words, and almost musical in its harmonious intonation. "If we take a retrospective glance at the depressed state of the native language and literature as it was a century ago, when the first Magyar newspaper was established at Rozsony, January 1, 1780, and contrast its commanding position now, or if we consider that, though constantly surrounded and pressed by foreign and antagonistic elements, the native language and literature have not been overpowered, but have gained the mastery, we cannot fail to admire the perseverance of the champions of Magyar literature, and believe that the state language is destined to be a common and enduring bond of union between the various nationalities comprised under the crown of St Stepen."

In a sketch of the statistics and history of Hungary, by Emeric Szabad, the Magyars, both nobles and peasants, are described as marked by oriental pride and nobleness, by love of liberty, hospitable customs, conviviality, and warlike spirit. Clinging with filial affections to his superiors, the peasant, a gentleman in language and bearing, is at the same time alive to the sense of his own worth.

It is not probable that the Cosmopolitan Railway would meet with any great opposition from the Aryan races of Europe, the English, French, German, Italians, and Spaniards. The builders of the Escurial in Madrid, the Suez canal, the Bartholdi statue, the Eiffel tower, the St Gotthard tunnel, and the Forth bridge in Scotland, would not oppose such a scheme, but opposition might come from the stolid Asiatic peasant. One great drawback to the advancement of the Slavs is the existence of village communities among them, which is undoubtedly a bar to individual progress. There are no farm-houses scattered here and there over the agricultural districts, but the farmers congregate in the *mir*, the Russian equivalent for township or village. Not only the Ural-Cossacks, but the German colonists, who started out with their own ideas of individual proprietorship, have adopted the village community system; and the general poverty and want of individual responsibility and energy characteristic of the Russian peasant is quite in harmony with the continued existence of this primitive Aryan custom, to which only Russia and India have clung. It tends, however, to foster many petty industries in metal-work, wood-work, and leather and textile manufactures that do not require either complicated or heavy machinery. Many of the small Russian farmers are also artisans, and when the weather is too inclement for agricultural pursuits, employ their time in weaving and in other light handiwork. With all his stolidity and want of progress, the Russian peasant must be a good-natured fellow, since he can live amicably with Finns, Kalmuks, Buriats, Tartars, and Ostiaks.

However the Russian government may oppress its subjects, it has certainly never lost any opportunities for extending its territory, nor for improving its commerce. I think that the Russian government would powerfully aid any such enterprise as the Cosmopolitan Railway, since it can now boast of about seventeen thousand miles of iron road, the Siberian railway being esteemed one of the wonders of the world. Nothing would develop the country more than a rapid communication with Asia. During the past decade Russia has been extending her commerce to a remarkable degree. She has, for instance, discovered the existence of extensive oil-wells within her domain, and is endeavoring to compete with America in supplying the world with oil. Great things may be expected from the Slavs when it is remembered that for years they have had to bear the brunt of the attacks of innumerable Asiatic hordes, and yet notwithstanding these perpetual conflicts, have sprung in a century fully armed from the brow of civilization.

If we except Egypt, Africa has hardly given to the civilized world anything worthy of a great continent. But to Egypt, the mother of civilization, the whole world owes an unpayable debt. In vain did the Phœnicians plant Carthage and other Semitic cities; in vain did the Romans colonize, and the learned Moors in the middle ages, driven from Spain, endeavor to plant new empires in Africa: that continent still resists every attempt to civilize it. But African explorers, with an unparalleled persistence, have at last discovered its main features. A group of inland lakes and mighty rivers and forests have been discovered, which are awaiting the pioneer's axe and the fisherman's net. The Sahara desert, the numerous cataracts in the rivers, the intensely hot and unhealthful climate, the want of harbors, and the barbarous Ethiopic tribes are mighty obstacles in the path of civilization. But what can withstand the steady onward march of the Aryan races? Africa must soon succumb to their invincible prowess and adaptiveness.

The universal language of northern Africa is Arabic. The inhabitants of Egypt are Muslim Egyptians (felláheen), Christian Egyptians (Copts), Osmanlis or Turks, Syrians, Greeks, Armenians, and Jews. In Fezzan, Tunis, Tripoli, and Algeria, the people are mainly Berbers and Arabs. Since Algeria has been conquered by the French, and Egypt brought largely under the control of England, no considerable opposition would in all probability be made to a railroad from Egypt or Algeria. During the twentieth century, Africa may cease to be the dark continent. It has taken America three hundred years to reach the present stage of its progress, but it is scarcely likely that it will take so long to whitewash Africa, modern machinery being such a potent agent, and means being at our command of which our fathers never dreamed.

Although the founders of the Cosmopolitan Railway may count upon the support of all the Aryan nations, the result will undoubtedly, more than likely, be accomplished through American enterprise. The two regions that will receive the most benefit are the central states, of which Colorado may be considered the type, and the Pacific coast states.

The delightful climate of the west is producing a new type of Americans. The eastern people have been noted for their nerve and intellect, but physically they cannot be regarded as approaching a very high standard. The new western type, however, seems to be destined to develop into the ideal people of the globe. They have the alertness and adaptiveness of the New Englander, united to the healthy, physical development of the English, without the latter's heaviness. They are progressive and energetic to a remarkable degree, are fond of books, yet are not bookworms, that type being peculiar to the eastern states. They have the ancient Greek's love of nature and of out-door life, but tend rather to scientific and mathematical than to purely literary development.

Beginning with a few Puritan families, self-exiled from the old world for conscience' sake, our American republic has gradually expanded, until now, after the lapse of nearly three centuries, the destinies of the world depend no longer on Europe, but on the United States. Restricted at first to the borders of the Atlantic, our community gradually overflowed toward the west, until, reaching the shores of the Pacific, it founded there the most recent of modern commonwealths, and established commercial intercourse with the oldest of Asiatic nations. Midway between Europe with her 350,000,000 of people and Asia with her 800,000,000, the United States are not only from their geographical position a barrier between them, but aid also in diffusing harmony into their social and commercial relations.

It is plain that the American race of the future will contain many mixed traits drawn from all other civilized races. And as a rule these will be the best traits of all in obedience to the law manifest in society and among nations, that progress is inevitable, and that qualities the most befitting progress remain, while the others drop out of existence. It is likewise plain that the quality of the whole mass is determined by the quality of each constituent element composing it. If we continue to infuse the dregs of Europe into our body politic, we must not look for that refinement and moral tone which we would otherwise have a right to expect.

It is idle to talk of our black population as anything but a curse to the country; whether as bondmen or free, they are a blot on our institutions, social and political, and this the more we try to make them one with us. They are every way inferior, and always will be, socially, politically, and intellectually. If we wish to do good to the African race, to elevate and improve them regardless of the general elevation and improvement of the commonwealth, that is one thing; if we desire to do what is permanently best for the country at large, we will do our own work, and exclude all debasing infiltrations.

Speaking in a broad sense, probably the most prosperous era in the history of the union was during the half-century between 1790, when the effects of the revolutionary war had passed away, and 1840, when began the great influx of pauper and peasant immigration from Europe. At the former date there were but 600,000 white families in all the United States. Though few were rich, as riches are now accounted, there were almost as few who were poor, unless it might be from the effects of intemperance or the accident of death. Food was abundant and cheap, skilled labor scarce, and farm labor not always available. Between 1820 and 1830 the total immigration from Ireland and Germany was little more than 140,000, though increasing in the following decade to nearly 600,000. For 1840–50 it exceeded 1,700,000, for 1850–60, 2,500,000, and though falling off somewhat in the next ten years, rose in 1870–80 to nearly 3,000,000. In 1890 there were in the

United States not less than 18,000,000 foreigners or persons of foreign parentage, of whom about two thirds were Irish or German.

Fortunate it is that with the increase of immigration came a corresponding increase in railroad development, to spread that immigration over the western and Pacific states. Still it is a huge in-gathering for the nation to assimilate, though let us hope that our republic will be spared the evils which Macaulay predicted when there shall be no more vacant land to absorb the overflow of our surplus population. But of this there would appear to be no immediate danger; for although since 1790 the center of population has moved far westward, so great have been the acquisitions to the settled areas of territory that the average density of settlement has increased by less than sixteen per cent, and within the last decade by less than two per cent.

From 240,000 square miles in 1790, with a population of 4,000,000, the settled area of the United States increased to about 1,750,000 square miles in 1890, with a population of more than 60,000,000. Of this increase in settled area a considerable portion came from the Pacific slope, where the gradual unfolding of its agricultural resources has led to vast accessions of unoccupied territory. But east of the Rocky mountains changes have occurred which, if less remarkable when compared with previous conditions, are, in relation to our industrial economy, of much greater significance. In Kansas and Nebraska, in Minnesota and eastern Dakota, in southern Wisconsin and elsewhere in the western states, the unsettled area has decreased with a rapidity as wonderful as the progress of railroad construction. In upper Michigan a large district has been peopled by the development of copper and iron mining, together with the building of the railroads that alone have made that development possible. In the lower peninsula vast forests have disappeared before the axe of the lumberman, and only in the far interior is there a small body of unoccupied land. In Texas railways have largely developed the sheep and cattle industries, and even in Florida the vacant spaces have almost disappeared.

To the western and to certain of the Pacific states Europe has looked for many years for a portion of her food supply, and still more will this be the case in years to come, for among the nations of western Europe, at least under existing conditions, the limit of production cannot be much further extended, while here it is practically unlimited. And not only with cereals, as formerly, but with meats and wines, with dairy products, and even with garden products, do we supply the old-world communities, bringing to the homes of their toiling millions, at little more than half their former cost, what were before esteemed as luxuries produced only for the rich. Never before has wheat fallen so low in English markets as within recent years; never before has American beef and mutton been brought within reach of England's poor. Let us be content that she still continues to manufacture for the world, so long as she buys so largely of our surplus products, amounting in 1886 to $345,000,000, or more than one half of our total exports; and while by protective tariffs we can exclude such of her manufactured articles as by our superior machinery and workmanship we can furnish better, if not cheaper, for ourselves. That our manufactures have not suffered though the growth of agriculture appears from the fact that nearly 4,000,000 of people are employed in the former pursuit, against less than 8,000,000 in the latter. In truth, the citizens of these United States are a working community, probably the hardest workers on the face of the earth, for among her 65,000,000, there are more than 20,000,000 of breadwinners.

To the vast majority of these 20,000,000, railways are directly or indirectly a source of occupation and support. Directly, they employ nearly 1,000,000 men, to whom are distributed in wages at least $500,000,000; indirectly, they make possible the employment of other millions in the several branches of commerce and manufactures, of mining and agriculture. They are, indeed, the very life-blood of the nation, and of the nation's industries, and without them could never have occurred such changes as mark the present era with lines more distinctly drawn than those which separated the ages of the Pharaohs and the Cæsars.

Of every 100 tons of raw or manufactured products that are taken for home or foreign consumption, it is probable that 90 at least pass over the railroad, and much of them over hundreds and even thousands of miles of railroad. Thus can the north exchange its textile and other fabrics for the raw material of the south, and thus can the west lay down at tide-water the enormous surplus of its grain-fields.

In all this broad land there is not a single individual whose welfare does not in a measure depend on railroads. By them is largely regulated not only the speed and comfort of his travel, but the supply and cost of nearly everything that he eats, and drinks, and wears, and uses, the promptness and despatch with he shall receive his mail, and the tidings collected in detail from every quarter of the world. On them he depends even for the maintenance of his social relations, and especially in these Pacific states, with their scattered communities, and their magnificent distances. Far more is this the case on the American than on the European continent, where in the more densely populated countries railroads are more a convenience than a necessity. In England, for instance, though with a greater mileage per capita, their influence is far less widely felt, and particularly in relation to the social condition of the people. Passing, let us say, from the shire of Hereford, a few miles beyond the frontier of Wales, one will find there a people to whom railways and the English language are alike unknown.

He will find on the sabbath the women riding on horseback, pillion-fashion, to the village kirk, still wearing, as in the days of the Tudors, their huge, unsightly, sugar-loaf hats, respectable in proportion to their age and battered condition. He will be fortunate if on that day he can have milk wherewith to flavor his tea, for to milk the cows on a sabbath is accounted by the Welsh as a deadly sin. In the mountainous regions he will be stared at as a curiosity, until he passes out of sight, by men who stand rooted to the soil on which their ancesters have lived since the days when the Keltic tribes were driven westward by the legions of a Cæsar.

There is but one section of the Pacific coast in which the influence of railroads has not been felt in greater or less degree, and that is the one lying northward of the line of the Canadian Pacific. In the central and northern sections of British Columbia, and in southern Alaska, is a vast and almost unpeopled region; some portions of it suitable for agriculture, others for stock raising, with the most productive fisheries in the world, with deposits of coal and iron, of gold and silver of unknown richness and extent, awaiting only the advent of the railway to insure its settlement. Here are found also forests of valuable timber sufficient to supply the world for centuries, as other sources shall become exhausted. Yet in all this country there are probably not 20,000 white men, and of these a large percentage are engaged in mining.

In the case of the Canadian Pacific, with which the transcontinental railroad would make its first connection on this side of Bering strait, there are advantages which are not possessed by other transcontinental lines. It is virtually a government line, under the control of the dominion of Canada, and one that can therefore be worked at rates which on other roads would be considered ruinously low. Moreover, from Port Moody to Montreal, the nearest eastern shipping-point, the distance by rail is some 450 miles shorter than between San Francisco and New York, by way of the Central and Union Pacific. Already the Canadian Pacific has begun to tap the rich commerce of China and Japan through a line of steamers, which will probably be subsidized by the British government. Thus it will be seen that the people of British Columbia are by no means the dormant community that their detractors would have us believe. On the contrary, they form one of the most progressive as well as the most cultured communities that have gathered on these Pacific shores. In one respect, at least, they surpass them all: they know how to enjoy themselves, and that in a rational manner, without the drinking and gambling which are here too often the sole idea of enjoyment.

"Barely two centuries ago," says Dr Pickering, who in 1841 passed through the straits of San Juan de Fuca on the exploring ship *Vincennes*, "our New England shores presented scenes like that before me; and what is to be the lapse of the third?" "At this date," remarks Bancroft in his *History of British Columbia*, "an Indian trail and a few Indian wigwams alone marked the presence of man amid the almost untenanted solitudes where now stand the cities of Victoria and New Westminster. In 1861 the population of Victoria mustered about 3,500 white inhabitants, of many nationalities, English and Americans predominating. The grades and cliques into which society resolves itself in older settlements did not as yet exist, even the lordly Douglas being esteemed no better than his fellow-man. More cosmopolitan perhaps than were even the San Franciscans in the days when bonanza society and the board of brokers were unknown, the members of this heterogeneous community, gathered from all quarters of the earth, placed themselves on a common level and had but a common interest—to better their condition, vying with each other only in making their lives, and especially their leisure hours, as agreeable as possible under their altered condition. Free from conventional restraint, dwelling in a spot world-famous for the beauty of its scenery, amid magnificent vistas of forests, and mountains clad with richest verdure, and in a climate softer than that of the south of England, there are few among the citizens of Victoria who, after enjoying this brief respite from the whirl and strife of progress and civilization, do not recall with a tinge of sadness these good old times.

"Though still containing in 1886 a large percentage of Americans, and as a community by no means lacking in enterprise, the citizens of the capital were not disposed to imitate the example of the Pacific coast metropolis, where presided the genius of unrest, and where men had barely time to live their allotted span of life. They took life quietly and somewhat easily, the merchant walking leisurely to his store at nine or ten o'clock, closing often at four, after a long interval for luncheon; and to the stranger within his gates who might take him to task for his unbusiness-like habits, he would reply that he was sufficiently well-to-do, and would probably enjoy longer days and certainly better digestion than his American cousin."

In British Columbia we have perhaps one of the highest forms of race development that the world has yet produced, with an interblending of a superior class of Americans and English, and with the better qualities of both.

Here, also, we find one of the few sections of the Pacific coast where the native tribes do not appear to be doomed to extinction. But this, it must be admitted, has been due at least as much to motives of policy as to considerations of humanity. In former days the Hudson's Bay company required the services of many of them as hunters, and as the remainder had nothing of which they could be robbed, they were allowed to remain unmolested. Only along the seaboard did outbreaks and massacres occur, and these caused mainly by the brutality and rapacity of traders. In early times, indeed, rapine and murder were looked upon as a matter of course, and somewhat in the nature of a gentlemanly pastime. Many, also, were the butcheries committed by the savages, when demonized by the influence of fire-water. In marked contrast with the treatment of the natives by the Hudson's Bay company's officers was the conduct of United States officials, some of them of exalted rank and social position. "Damn them! it would do my soul good to be after them," exclaimed Joseph Lane, the first of Oregon's governors, when riding one day toward Nisqually. Of certain jurors before whom were tried at Steilacoom several Indians charged with murder, it is related that while the remainder of the jury were deliberating, they rolled themselves up in their blankets, remarking before composing themselves to sleep, "Whenever you want an Indian hanged, awake us."

The natives of British Columbia are among the most intelligent of Indian tribes, and where proper inducements are offered, readily conform to the usages of civilization. Not a few of them are employed on farms and stock-ranges, and many work at the salmon fisheries and canneries of the Columbia river, and even at certain branches of manufacture. At the mission at Metlakathla bay, for instance, established in 1858, by the Reverend William Duncan, there was some thirty years later a town of 1,500 civilized natives—civilized, that is, so far as savages are capable of civilization. The settlement was self-supporting, and among the industries was the weaving of shawls, and the manufacture of lumber and bricks, of sashes and doors. With such results accruing from missionary effort, it would appear that our government might find some better use for the Indian population than to starve them or to slaughter them.

In Alaska the condition of the Indians is simply deplorable, and not least among the benefits of a Cosmopolitan Railway would be the aid that it would afford the United States government in carrying out the stipulations of its treaty with Russia, as yet unfulfilled, with regard to the treatment of the natives. While it was expressly stated in the treaty that schools should be maintained, as late as 1885 none had been established, and though in 1869 $50,000 was appropriated by congress for educational purposes, no one could be found whose business it was to administer the fund, and thus for many years it remained intact. Says the Reverend Sheldon Jackson in his *Alaska:* "Russia gave them government, schools, and the Greek religion, but when the country passed from their possession, they withdrew their rulers, priests, and teachers, while the United States did not send any others to take their place. Alaska, to-day, has neither courts, rulers, ministers, nor teachers. The only thing the United States have done for them has been to introduce whiskey."

After describing the shameful outrages inflicted by the military on the unfortunate Aleuts, Bancroft remarks, in his *History of Alaska:* "Nearly all the troubles that have occurred with Indians, since the time of the purchase, may be traced directly or indirectly to the abuse of liquor. During the régime of the Russian-American company rum was sold to them only on special occasions, and then in moderate quantities, but afterward the supply was limited only by the means of the purchaser. The excitement of a drunken and lascivious debauch became the one object in life for which the Indians lived, the one object for which they worked. While sober they were tractable and sometimes industrious, and if they had sufficient self-denial, would remain sober long enough to earn money for a prolonged carousal. They would then plan their prasnik, as they termed it, deliberately and of malice aforethought, and enjoy it as deliberately as did the English farm-laborer in the seventeenth century, when spirits were cheap and untaxed, and when for a single shilling he could soak his brains in alcohol for a week at a time at one of the roadside taverns, where signs informed the wayfarer that he could get well drunk for a penny, dead drunk for two pence, and without further expense sleep off the effects of his orgy on the clean straw provided for him in the cellar."

Perhaps the country most to be benefited by the building of a Cosmopolitan Railway would be Siberia, and especially eastern Siberia, with its boundless expanse of almost uninhabited country. Here we find areas of agricultural land that are practically of unlimited extent occupied by a half-civilized population smaller in number than that of California, and yet producing barely sufficient for their own support. But first of all a word as to the condition of the exiles, concerning whom so many sensational stories have been published within recent years—stories written only for effect, and by no means confirmed by the impartial reports of travellers.

Says Lansdell in *Through Siberia*, after visiting nearly all the prisons and penal settlements of that country: "Looking at the matter calmly and dispassionately, I am bound to say that exile to Siberia no longer calls up to my mind the horrors it did formerly. I am quite prepared to believe that instances have occurred of bad management, oppression, and cruelty. I have already quoted some cases; but that the normal condition of things has been exaggerated I am persuaded. Taken at the worst, 'condemned to the mines' is not so bad as it seems, and in the case of peasant exiles willing to work, I cannot but think that many of them have a better chance of doing well in several parts of Siberia than at home in some parts of Russia. English people are accustomed to think of exiles like the parents of Elizabeth banished to a region in the far north, where scarcely anything grows; but a little consideration would show this to be, in the great number of cases, extremely unlikely, for the government would then have to keep them, whereas in the south they can keep themselves. On the seacoast women convicts get excellent places as servants. A lady told me at Vladivostok that some of her convict servants had recently said to her: 'We have such a good time of it here in Siberia that, had we known it, we would certainly have committed a crime before to get here; and now we mean to write to our relations and tell them to do something to get sent here too.'"

Doubtless at the mines the hours of labor may be too long, and the treatment harsh; but as to men being buried alive in them, and released from their imprisonment only by the hand of death, such stories have not the slightest foundation in fact. At the Saghalin coal mines, for instance, where are sent the worst of the criminal convicts, the men are required to labor twelve hours a day; but the task accomplished in those twelve hours would not furnish a California miner with a forenoon's work. They are fed as abundantly as in American prisons; they are clad at least as well, and their leisure time is passed in conversing and smoking in the company of their fellows.

At Kara, of which so many horrors have been related, driving up to one of the prisons toward nightfall, let us say, the visitor will pass what appear to be parties of laborers returning from work. They are convicts, who, after serving one third of their term with good behavior, are permitted to live *en famille.* At the several prisons he will find the men lodged with tolerable comfort in cells or wards that are never overcrowded. At the mines he will observe that the task required of the convicts is considerably less than that of the free laborers who work with them side by side, and remain at work for hours after the former have returned to their barracks. With food they are better supplied than are the Cossacks who guard them, the daily ration being four Russian pounds of bread, a pound of meat, and a little tea and buckwheat.

In addition, they receive fifteen per cent of whatever they may earn for the government.

There are also penal colonies, as the one at First river, near Vladivostok, where the men live in such comfort that few care to leave it after their time has expired. They build their own houses, and earn what they can by day or night. In their gardens are potatoes, pumpkins, and cabbages, and in their yards a plentiful stock of poultry. On beginning to colonize, they receive every month over seventy pounds of flour, with a small daily allowance in money, and a liberal supply of clothing. Many of them possess horses and cows; of all, the larders are abundantly furnished, and before the visitor they will place some light refreshment, as milk and wild grapes, of which he will partake in the summer-house beneath a bower of vines.

Such is exile and convict life in Siberia; and while it is not denied that flogging and chains are at times resorted to, this is only for secondary offences; never as a part of the original sentence, except that prisoners are chained en route for the place of banishment.

Except to provide for the subsistence of prisoners and of the troops that guard them, there is but little trade in eastern Siberia; for as to the natives their wants are few, and to supply them a yearly visit to the nearest fair will usually suffice.

In northeastern Siberia, or, as it is termed, the upper Primorsk, the most interesting country is Kamchatka, on the western coast of which is a Tunguse tribe, the Lamuti, still living in a condition of primitive simplicity. In the southern part of the peninsula dwell the Kamchatdales proper, about 3,000 in number, and resembling somewhat the Eskimos in appearance, with their large oval faces, sunken eyes, and high cheek-bones. Such is the poverty of their language that sun and moon are expressed by the same word, and the names of animals and fish by the month in which they are most plentiful. Less warlike than their neighbors the Koriaks, their songs tell not of battles, but of love-making and sledge-travelling, of hunting and fishing, while in their dances they bound like the deer, and imitate to perfection the movements of animals. The bay of Avatcha, on which is Petropavlovsk, their capital, is one of the finest in the world.

The Koriaks are among the most degraded of all the Siberian races, corrupted by itinerant merchants who have taught them how to lie and steal, and by sailors who have taught them drunkenness and debauchery. But among the migratory Koriaks a better condition of affairs prevails, many possessing large herds of reindeer, their only source of wealth. It is their custom to put to death the sick and aged in order to terminate their sufferings, and consider it the last office of affection to administer the *coup de grace* with the smallest possible pain.

In the Kamchatkan valleys the Russian settlers make hay three times a year, and though not adapted to cereals, the soil yeilds in abundance the hardier garden vegetables, as cabbages, potatoes, carrots, turnips, and beet-root. But for their subsistence they depend mainly on fish, and during their four months of summer must lay up a supply sufficient for the remainder of the year. This, however, they cannot always accomplish, and throughout the long winter season want and misery are too often familiar guests.

It is probable that the first large accessions to the population of Siberia will come from the direction of China, although this may not happen until the Chinese system of railroads shall have been at least partially developed. And what will be the result of transferring a portion of these toiling millions to the fertile sections of eastern Siberia, of putting them to work on her mines of gold and silver, of coal and iron? Here is indeed a problem of tremendous significance, one fraught with such changes in the world's industrial economy as no man living can foretell.

CHAPTER VIII

RETROSPECTIVE

In taking at this point a retrospect in relation to the subject-matter presented in this volume, it is interesting to recall the views entertained and the opinions expressed by myself and others thirty years ago.

Referring to my writings of that period, which were indeed the result of twenty years previous study and reflection, I find myself saying, that inasmuch as the popular mind seems willing to entertain with favor and judge candidly what may be truthfully said of a national railroad to the Pacific, and everywhere is indicated a growing taste for whatever may solidly enhance the prosperity of our continental system, I have here condensed the general views resulting from a long experience.

This project touches profoundly all the existing relations of the human family, connecting three continents, and uniting together, by a line only ten thousand miles in length, the thousand millions of people inhabiting Europe, America, and Asia. This line traverses the middle of the north temperate zone, perforating nine tenths of the land, the population, the production, and the consumption of the world.

I say, it is necessary for one who will write with dignity upon such a subject, so searching and omnipotent, to grasp boldly its immense scope of matter; to rely upon solid statistics; to facc and brave old opinions; to repudiate the rubbish into which thousands of years of staggering and abortive effort have submerged it; and to condense it into the tangible form of propositions, which may be practically handled for a final solution.

The shortest method whereby the local works now on hand and proposed may be understood, the public judgment matured, and opinion prepared for action, is to condense by rigid analysis, and draw into one view the multitudinous facts of geography, commerce, politics, and progress under which the American people are so rapidly erecting a supreme democratic republican empire, and fitting it to the surface of the northern American continent and islands.

And first must be eliminated from the dogmas of European writers, who, with procrustean despotism, rive up all other portions of the globe to fit their own pigmy theories, the symmetrical and sublime geographical plan of our continent. This, heretofore presented to the public mind with every form of distortion, is reducible to an exact system, easily understood and eternal. The reverse geographical form in which our continent is moulded, the contrast with all the others, makes a new and original condition of society, not only possible but compulsory upon us. To free ourselves from inane dependence on Europe in other things as we have done in politics; to place a due estimate on ourselves and our mission; to appreciate Asiatic science, civilization, and commerce—these are the preparatory steps by which we must prepare our minds.

This, then, is the simple plan of North America: The Andes, having traversed the whole length of South America, passing out from the isthmus of Tehuantepec, continue to follow, unchanged in character, the Pacific shore of North America clear up to Bering strait. Known successively as the cordilleras of Anáhuac in Mexico, Sierra Nevada in California, and Cascade mountains in Oregon, it is all along the same auriferous and volcanic range. It has a narrow base, washed on the west by the tide; immense altitude; summits of perpetual snow; and is formed of the columnar vulcan rock, or a molten mass of lava.

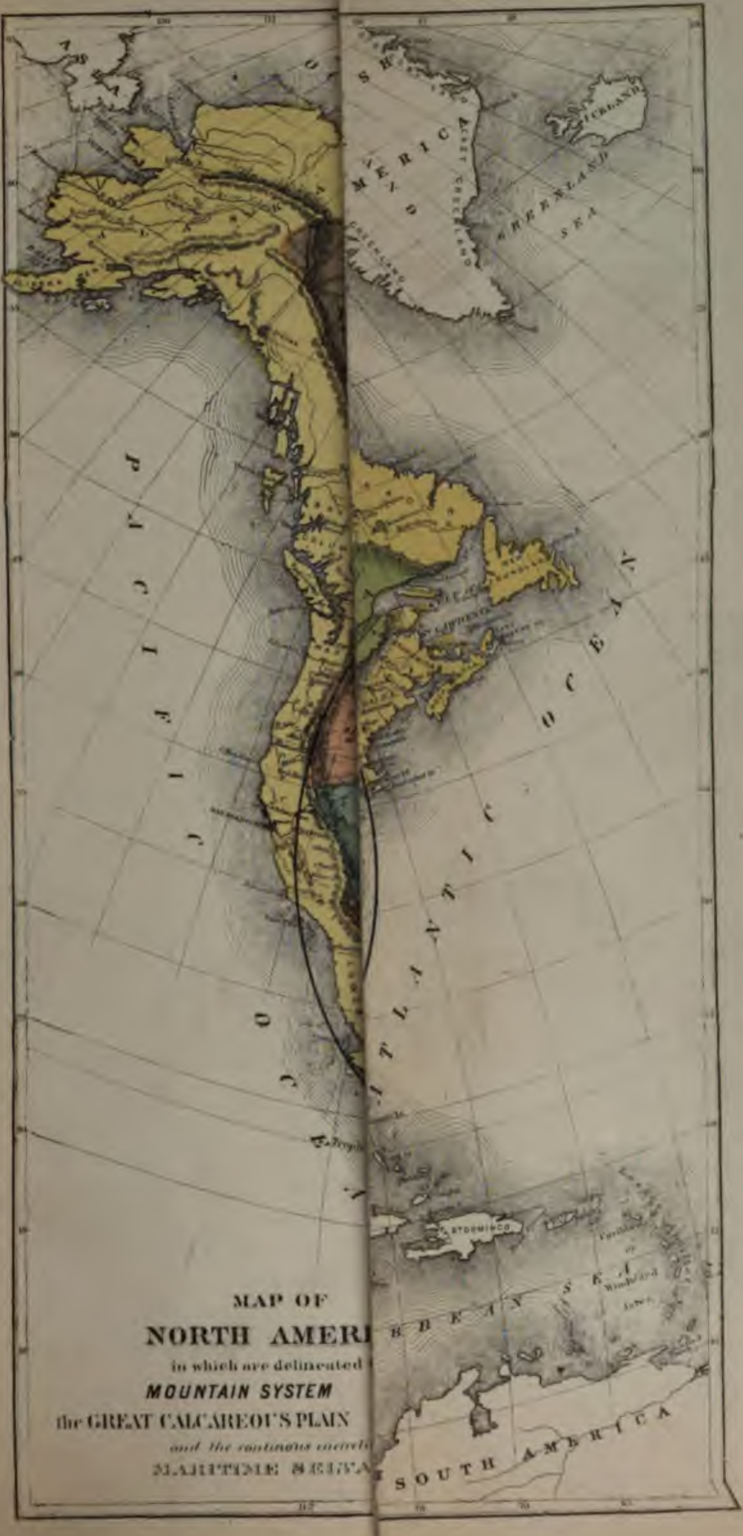
Between this continuous escarpment of rock and the sea is the maritime region of the Pacific, which contains all the present American population residing in California and Oregon, upon the smaller rivers running directly into the sea, and parallel with one another. It resembles and is the counterpart of the maritime Atlantic declivity, which contains the old thirteen states, and which is shut off from the valleys of the Mississippi and St Lawrence by the Alleghanies.

But at the isthmus of Tehuantepec the Andes range bifurcates, throwing along the coast of the Mexican gulf the great cordillera of the Sierra Madre, which opens rapidly from the Andes as the continent widens. This assumes in our territory the name of Rocky mountains, and extends northward to the shores of the Arctic sea. It is some 1,400 miles apart from and to the east of the Andes, and forms the primary divide, the *divortia aquarum* of America.

The absolute separate existence of these two prodigious cordilleras must remain distinctly in the mind, if one intends to understand American geography.

The interval between them, from end to end, is occupied by the plateau of the table-lands, on which are alike the cities of Mexico, Chihuahua, and the Mormon city of the Salt lake. This plateau of the table-lands is two sevenths of the surface of North America; is some 6,000 feet elevated above the external oceans; and gives as complete a separation between the cordilleras on the flanks as does the Atlantic, whose waters roll between the Alleghanies and the Alps.

Thus that side of the American continent which may be said to front Asia, and shed its waters in that direction, has these four characteristic divisions: the maritime front, the Andes, the plateau of the table-lands, and the Sierra Madre, all extending the whole length from south to north, parallel with one another, and covering in the aggregate two fifths of its whole area. These two continuous primary mountain chains


MAP OF
NORTH AMERI
in which are delineated
MOUNTAIN SYSTEM
the GREAT CALCAREOUS PLAIN
and the continuous encircl
MARITIME SELVA

define themselves as the western and eastern cordilleras.

The remaining three fifths of the continent sheds its waters toward the Atlantic. Here, too, the same sublime grandeur and simplicity of plan are discernible. From the Sierra Madre the whole continent descends to the seas by an immense plane, resembling the glacis of a fortress, or a flattened octagonal house-roof. This plane, once the bed of an immense ocean, of which the Sierra Madre was the shore, and bevelled by the action of the watery mass, now forms the gentle slope down which descend, to replenish the oceans, the surplus waters of the Sierra Madre and the plane itself. These descending watercourses, seaming its surface as completely as the veins which carry back the blood to the human heart, flow down the different faces of the great plane, proportioned in length and size to the distances to be traversed. Thus, down the smaller face, which fronts the Mexican gulf—at present comprehended in Texas—run the lower Del Norte, the Nueces, Colorado, Trinity, and Brazos.

Down the grand eastern front, called by us the great prairie plains, descend the Red river of Louisiana, the Canadian, Arkansas, and Kansas, the Platte with its three forks, and the sublime Missouri itself. All of these, running due east, parallel with one another, very straight and without rapids, are received into the great central trough, the Mississippi, which runs from north to south across their direction, and their accumulated waters are discharged into the gulf.

From the same focal point with the Missouri radiate two fronts. The one is drained by the system of rivers tributary to the Saskatchewan, opening to the northeast, and widening to embrace the immense inland sea of Hudson bay. The other is upon the Athabasca or McKenzie river, sloping due north, and occupying the vast hyperborean region, stretching to the Arctic sea.

From an elevated swell in the plane between the

Missouri and Saskatchewan, protruding from the Sierra Madre eastwardly along the 49th degree, about 700 miles, issue the waters of the upper Mississippi and St Lawrence. The former flows directly south to scour out the trough of the continent. The latter flows down the narrow basin of the lakes and the river St Lawrence, to where the glacis reaches the sea and forms the shores of the gulf of that name.

Thus, from the dividing wall of the Sierra Madre, the continent descends uninterruptedly to the gulf, the north Atlantic, and the Arctic seas. The perfect gentleness of this descent, scarcely distinguishable from a level, is perceptible from the rivers, which are entirely free from rapids, and everywhere navigable when water is sufficient in their beds. The sublimest example is the watery surface of the Missouri, whose liquid plane, dipping by perhaps thirteen inches to the mile, has an unruffled uniformity of descent through its whole course of 5,000 miles to the sea.

But to render complete this geographical delineation, there rises all along the Atlantic, and parallel with its shore, the dividing range of the Alleghany, uninterrupted from Baton Rouge to the gulf of St Lawrence. External to this is the narrow seaboard declivity which first received the European settlements, and still holds the densest population; but within, a reverse glacis descends to the Mississippi and St Lawrence, filled with states to the central trough of the continent. Practically, the basins of these great rivers are narrowed to mere passes at their mouths by the points of the mountain chains which fence them from the sea, expanding to an immense breadth in the interior, and fading into one another, where they touch, by prairie divides of imperceptible elevation. They form together one vast bowl, whose waters flow from the circumference near the seas, inward, to centres which are near and already connected by art, as at Chicago. This bowl or plain is everywhere calcareous, being paved beneath the soil with an undulating covering of limestone, as is a frozen lake with one of ice.

To recapitulate: the whole Atlantic side of the continent is one calcareous plain of many fronts. Each front has a mighty system of arteries, demonstrating its gradual slope, and carrying its surplus waters to the sea. Yet, by the rising of the eastern halves of the basins against the Atlantic barriers, it also becomes the receptacle into which the waters have first a concentric direction, as they accumulate in the troughs that conduct them to the sea.

The superlative wonder about this is, that here in North America is rolled out, in one uniform expanse of 2,300,000 square miles, an area of arable land equivalent in surface to the aggregate of the valleys of the other continents, which are small, single, and isolated. Moreover, the interlacing of the rivers forms everywhere a complete system of navigation, blended into one by public works of the easiest construction, and forming, by their double banks, a shoreline equal in extent to the coasts of all the oceans.

To master the geographical portrait of our continent in its unity of system is necessary to every American citizen—as necessary as it is to understand the radical principles of the federal government and of political society. Our country is immensely grand, and to appreciate it in its simple grandeur is but a homespun, matter-of-fact duty. Still another illustration remains of the paramount significance to us of geographical facts. This is the contrast between our own and the other four continents.

Europe, the smallest of the grand divisions of the globe, contains in its centre the icy masses of the Alps; from round their declivities radiate the large rivers of that continent; the Danube directly east to the Euxine; the Po and Rhone south to the Mediterranean; the Rhine to the northern ocean. Walled off by the Pyrenees and Carpathians, divergent and isolated, are the Tagus, the Elbe, and other single rivers, affluents of the Baltic, the Atlantic, the Mediterranean, and the Euxine.

Descending from common radial points, and diverging every way from one another, no intercommunication exists between the rivers of Europe; navigation is petty and feeble; nor have art and commerce, during many centuries, united so many small valleys, remotely isolated by impenetrable barriers. Hence upon each river dwells a distinct people, differing from all the rest in race, language, habits, and interests. Though often politically amalgamated by conquest, they again relapse into fragments from innate geographical incoherence. The history of these nations is a story of perpetual war: of mutual extermination; and an appalling dramatic catalogue of a few splendid tyrannies, crushing multitudinous millions of submissive and unchronicled serfs.

Exactly similar to Europe, though grander in size and population, is Asia. From the stupendous central barrier of the Himalayas run the four great rivers of China, due east, to discharge themselves beneath the rising sun; toward the south run the rivers of Cochin China, the Ganges and the Indus; toward the west, the rivers of the Caspian; and north through Siberia, to the Arctic seas, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya mountains have proved insuperable barriers to the amalgamation of the nations around their bases and dwelling in the valleys which radiate from their slopes. The continent of Africa, as far as we know the details of its surface, is even more than these split into disjointed fragments. Such, also, in a less degree is South America.

Thus, while North America opens toward heaven in one expanded basin to receive and fuse harmoniously whatever enters within its rim, so each of the other continents, presenting a bowl reversed, scatters everything from a central apex into radial distraction. Political empires and societies have in all ages conformed themselves to these great geographical facts.

The American republic is then predestined to expand and fit itself to the continent. Much is uncertain; yet through all the vicissitudes of the future, this much of eternal truth is discernible: in geography the antithesis of the old world, in society it is and will be the reverse.

North America will rapidly attain to a population equalling that of the rest of the world combined; forming a single people, identical in manners, language, customs, and impulses; preserving the same civilization, the same religion; imbued with the same opinions, and having the same political liberties.

Of this we have two illustrations now under our eye, the one passing away, the other advancing: first, the aboriginal Indian races, among which, from Darien to the Eskimos, and from Florida to Vancouver island, exists a great resemblance as to complexion, features, stature, and language; second, the instinctive fusion into one language and one new race of immigrant Germans, Englishmen, Frenchmen, and Spaniards, whose individuality is obliterated in a single generation.

It is thus that the sacred destiny of our union lies in the bosom of nature; its perpetuity in the hearts of a great democratic people, imbued with an understanding and reverence for her eternal promptings and ordinances. It lies not in the trivial temporalities of political taxation, African slavery, local power, or the nostrums of orators, however eminent. It is the truth, established by science, and not the deductions of metaphysics, with which the people must fortify themselves.

As power resides in the people, and the suffrage is its exercise, with them also must reside wise and intelligent counsel. To be certain that the great principles on which they rely to strengthen and perpetuate human rights are the truthful deductions of exact science, and in harmony with nature, is the individual duty of the citizen. To reject what is otherwise is the only safety from usurpation and tyranny. To assert that the masses are deficient in intelligence to comprehend and use familiarly the truths of science, is the language of tyrants and perfectly false. Behold an eternal example of universal dissemination and familiar use of scientific truths!

The alphabet of twenty-six letters and the numerals of ten figures are the most profound, condensed, and sublime forms of abstract truth which science has or can give to the human race. How many ages and how great a mass of intellectual analysis and research were consumed in reaching this abstract quintessence of truth, has not been made known to us with the inventions themselves.

At sight of a printed volume or a newspaper the intelligent savage is crushed with a sense of despair, not knowing that a few years of study will render the mystery intelligible. The child of civilized society, on the contrary, commencing with the alphabet which science has discovered and bequeathed, accepts it through faith, combines letters into syllables, syllables into words, words into sentences, and has opened to him, by an easy ascent, the knowledge which written language has accumulated and perpetuated since its invention, some thousands of years ago.

Believing that abstract truth, wherever reached in other departments of human affairs—as, for instance, in geography—may, in like manner as the alphabet, be universally received, trusted, and used by the people, I have written these remarks. They agree with the speculations of the scientific writers whom I have been able to consult, especially Humboldt and Jefferson.

If this abstract of simple geographical elements be truth, then the future of the American republic, expanding to fit the continent, as the human foot within a shoe, and brightening the world with its radiance, is familiarly discernible.

Variety of climates and altitudes; the consequent distribution of industry; the immense commerce which will adjust the interchanges of so vast a surface, so variously occupied; the union by public works of the fluvial arteries descending opposite slopes; the connections with the external continents; and the forms of states, rising consecutively till they shall number one hundred; all these successive events become the creations of a natural order of progress, and will be the easy deductions of exact calculation of time from statistical data.

To come finally to solve the question of the construction of the Cosmopolitan Railway, it is necessary to analyze the present condition of commerce, both of our own and external countries; how far it is friendly or hostile to the immense modifications such a new route will engender; to probe the temper and force of political power and jealousies; to reason out and balance the friendly and hostile elements that bear upon it; and to subject to the most searching scrutiny the topographical character of the immense space of our continent, interrupted by the plateau of the tablelands, the great mountain ranges of the Sierra Madre and the Andes, with their external slopes.

On some of these topics I have already touched, and here I shall treat more especially of the history and condition of commerce, the effect of which has ever been to open up the means of communication between the great centres of population, to establish new centres on these lines of communication, and by the application of labor to the development of natural resources, to increase the production of commodities. Without commerce the railroad systems of the present day could never have existed; without railroads could never have occurred such marvellous progress in the world's commercial and industrial career.

Commerce, or the interchange of commodities, probably dates back its origin to the earliest existence of human society; for however self-dependent man may have been in his primitive state, he must always have had something to exchange. Man is a trading animal, and in this, among other points, he differs essentially from the brute. Take, for instance, the one next highest in the scale of intelligence, which is the dog; as a well-known political economist remarks, no one ever yet saw a dog make a fair exchange of a bone with another dog.

So long as men lived in isolated families or communities, each one laboring to supply its own necessities, there could be no such thing as commerce in its proper sense, which presupposes also the subdivision of labor and the accumulation of a surplus stock. As labor was subdivided and natural resources were developed, population gathered at central points, where traders met, and those who were skilled in handicraft were encouraged to settle. This was usually on the banks of navigable rivers, and especially at their confluence, or on the harbors of inland seas. Thus towns and cities were founded, some of which became in time the seats of empire.

From the shores and islands of the Mediterranean, the cradle of maritime commerce, trade found an outlet toward the north through the Pillars of Hercules, and toward the south by way of the Red sea to the Indian ocean, and thence round the southern cape of Africa. While the Phœnicians were the greatest of the commercial nations of antiquity, it is certain that long before their time commercial intercourse existed —as far back at least as the days of Abraham, who weighed out in payment for the field of Ephron "four hundred shekels of silver current with the merchant." Here we have commerce as a recognized profession, with barter in land, and the use of silver as a medium of exchange. At least 2000 years B. C. the precious metals were current in Arabia, and probably long before that date in Egypt and Assyria. The southern Arabs were indeed the first merchants to engage in traffic by land with other nations, just as were the Phœnicians by sea.

When Alexander had levelled to the ground the walls of Tyre, and founded as its successor the city which, after the lapse of more than twenty-two centuries, still bears his name, Carthage began to be recognized as the commercial centre of the world. While Rome was dictating laws to half the nations of the earth, Carthage was establishing her trade with the other half; for the power of Carthage was in her fleets, just as the power of Rome was in her armies; and ships could penetrate where legions could not tread. The world was not large enough for two such powers as Rome and Carthage, whose interests were ever in conflict, and presently came the Punic wars, in which the mistress of the west was well-nigh shaken from her throne. But after Trasimene and Cannæ came the Metaurus and Zama, followed by the downfall of Carthage, and in the same year by the destruction of Corinth. Thus two great commercial centres were blotted from the face of the earth; and sixty years later Athens fell under the Roman yoke, trade being diverted from its former channels, and conducted only under proconsular license. Still another half-century, and Palmyra, the emporium of the rich Syrian traffic, and for centuries the pivot of commercial intercourse between the east and west, was razed to the ground by the emperor Aurelian. Finally fell Rome herself, when, toward the end of the fifth century, Romulus Augustulus surrendered the imperial crown at the bidding of barbarian mercenaries, and the western empire was extinct.

In the history of all these centuries there is nothing more clearly marked than the ceaseless efforts of commerce to establish and maintain its lines of communication under such security of tenure as was for the moment attainable. Driven from the land, it found an outlet by sea; and driven at times from both, it never failed to find new centres and channels of intercourse.

Alarmed by the incursions of Alaric the Visigoth, the senate of Padua, the capital of the Veneti, known from time immemorial as a trading community, decreed that on Rialto, the largest of the islets opposite the delta of the Po, should be established their principal seaport. After every fresh spoliation at the hands of the barbarians, others were driven to the islands for refuge, and thus arose Venice, accessible only by boats and channels easy of defence—a city whose glory was to last for a millennium of time. With her treasures and storehouses secure from plunder, she stretched out her hands over the sea, became mistress of all the principal islands in the Levant, established a thriving trade with Constantinople, and with Grecian, Syrian, and Egyptian ports, and in the later centuries of the middle ages was acknowledged as the commercial emporium of the world. By other cities her example was followed; by Genoa, Naples, Florence, and finally by Rome herself, though none of them could wrest from Venice her supremacy. Here it was that banking was first introduced; here that bills of exchange and certificates of funded debt were first negotiated; and here that men first began to understand the science of finance.

In northern Europe the Hanseatic league gave birth to the traffic of countries bordering on the Baltic, a region hitherto sunk in utter barbarism. From Hamburg its power extended southward to Amsterdam and Frankfort, and northward to Dantzic and Riga, embracing in all nearly a hundred towns; and not until the consolidation of the German empire, under a government well able to protect its commercial interests, did the last traces of its influence disappear. In the sixteenth century Holland became the leading centre of maritime commerce, though for hundreds of years before, the Zuyder Zee had brought to the docks of Amsterdam the trade of southern Europe and of Baltic ports.

Meanwhile new worlds had been discovered. Toward the end of the fifteenth century a Portuguese traveller had penetrated by way of the Suez route the mysterious realms of Hindoostan, a country which tradition had clothed with fabulous splendor. Columbus had thrice crossed the Atlantic, and Cabot had planted the English flag on the shores of Virginia. Then followed the Spanish occupation of Central America, Mexico, and Peru, increasing by countless millions the world's store of the precious metals, but adding directly nothing to its wealth; for silver and gold are merely commodities, and like all others rise and fall in accordance with the inexorable law of supply and demand.

It was not until late in the eighteenth century that England began to rank as a great commercial nation, not until the inventions of Arkwright and Crompton had given impulse to her manufactures; for apart from those manufactures she had little to exchange. For two hundred years or more before England had developed any manufacturing capabilities, or knew how to utilize even her own supplies of raw material, the French were shipping to the British isles their silks and laces, and the Flemish their linen and woollen fabrics. In 1780 only a few million pounds of cotton were imported into the United Kingdom; in 1880 the total was not short of 2,000,000,000 pounds. At the former date Liverpool was a small seaport town, with clearances for foreign ports of 300 or 400 vessels, and with a tonnage of less than 60,000. In the latter year her population was estimated at 540,000, and her tonnage at nearly 8,000,000. In 1764 the total imports of Great Britain were £11,250,000; that they should have risen to some £30,000,000 at the close of the century was considered a phenomenal increase; and so perhaps it was, considering the effect of the wars of Bonaparte and the loss of her American colonies. In 1880 the imports of London alone were £141,000,000, and of the United Kingdom about £400,000,000, thus absorbing nearly one half of the entire exports of the world, which according to the highest estimates did not exceed £850,000,000.

During the present century the commercial development of the leading nations of the world has been such as has never before been witnessed in the history of mankind, and to this, apart from the increased production caused by the growth of mechanic arts and inventions, two main causes have contributed—first, steam navigation, railroads, and telegraphs; and second, the discovery of gold in California and Australia, and the subsequent development of precious metals in Colorado, Nevada, and Montana. It was not, however, until about 1840 that the movement began to assume the colossal proportions to which it has since attained. Between 1800 and 1840 the imports of Great Britain increased by little more than 100 per cent; between 1840 and 1880 the increase was nearly 600 per cent, a rate that was surpassed only by the United States, whose imports increased from $107,000,000 in 1840 to $761,000,000 in 1880, and in 1890 were little short of $1,000,000,000.

Although the first steamer crossed the Atlantic as early as 1819, it was not until the fourth or fifth decade of the century that either steamboats or railroads came into general use. To Calcutta a voyage by steamer was successfully accomplished in 1825; but for years after that date the appearance of a steamer in the waters of Hoogly was regarded in the nature of a prodigy. At a public dubar held in March 1833, Lord William Bentinck received the following communication from one Shewbux Roy, gamashta of Luckmeechund:

"My lord, our Seth Sunne Ram has heard with astonishment that an iron boat has been sent out from England, which can swim, and is capable of being navigated from Calcutta to Benares in eight days and against the stream. He desires to know how such things can be; he has directed us to make particular inquiries into such an unheard of piece of mechanism, and to ascertain if it be true that the English perform such pieces of necromancy through the agency of those jinn or devils who, in the early ages of the world, were turned into smoke, and put into pots by the learned among mankind, and taken out to work for their masters as required. Now, as we know the real truth of these matters, we hope, especially as it will be pleasing to the Gwailor government, that a copy or epitome of the iron steamboat may be given to us, that we may send it to Gwailor, with an explanation showing how such incredible things to others can exist through the agency of the British knowledge and science."

In his lordship's answer, of a portion of which the following is a copy, the model is duly promised, and there are many expressions of gratification at the Hindoo's desire to become acquainted with European science:

"His highness wishes to know how an inanimate engine can be moved without the application of animal force. I will describe: just as the circulation of the blood and the motion of the limbs of an animal are caused and carried on by the pulse of the heart, so the motion of the levers and revolution of the wheels of the steam-engine are produced by the action of a piston in a cylinder. Now the pulse of an animal is moved by the invisible power of the creation; no one can understand it; but the motion of the piston is caused by human agency, springing from God-given wisdom, and is intelligible to every one.

"To comprehend the means by which the piston moves, it is only necessary to do two things:

"First, put a pot half full of water on the fire; stop up the mouth closely; place as great a weight on it as it will bear; still you find that when the water boils the steam produced will force off the lid or burst the vessel; for know that one ruttee of water, by the application of fire, expands to 1,700 ruttees of steam, and how is this to be contained in so small a pot? From this learn the force of steam, for as Sadi says, 'Love and musk cannot be concealed,' so it is certain that steam cannot be restrained."

Then after describing the principle of the vacuum, he continues: "To explain all the parts of the machine would be tedious. Briefly, it is equally applicable to land or water carriages. In the picture now sent, his highness will see strings of thirty carriages drawn along by one engine, up hill and down dale, at the rate of thirty miles an hour.

"What wonder if his highness should set out in his steam-carriage at daybreak, to go to bathe at Agra, or to pray at Buidrabun, and be back at Gwailor by noon? If an iron steamboat were launched upon the Chambul at the proper season, it might reach Calcutta in a week. But what end is there to wonders? It is said, 'A wise man is not astonished at wisdom.'"

Since the day when these lines were penned, the benefit of railways, steamboats, and telegraphs has been extended to every civilized nation of the earth, with the exception only of China, where, as I have said, a railroad system has recently been inaugurated. In truth, it has been a marvellous development, and one as rapid as marvellous, though still with a gradual progression, for at every step the most difficult problems were encountered in pure and applied science, and in various branches of manufacture. But now has been achieved, through this wondrous combination of science and mechanism, the greatest speed and facility of communication that the human mind has yet conceived, a boon that commerce has sought, and sought in vain, almost from the beginning of the world. To accomplish this task has been the work of little more than half a century, and yet its cost may be counted by thousands of millions. But assuredly these millions have not been expended in vain; they have brought forth fruit a hundred-fold; for while by the demands of commerce these agencies have been created and extended, they have also developed the traffic without which they could never have been sustained.

As to the gold discoveries, their first effect was to produce a vast migration to the countries where they occurred, and thus also to people not only the great continent of the southern hemisphere, but more than one half of the North American continent. Besides giving new direction to commerce, they have filled the coffers of our banks, and given such confidence to banking operations that vast stores of gold and silver were distributed among the channels of trade. They have caused a very considerable advance in prices and in wages, with a largely increased demand for manufactured goods, resulting partly from the transfer of eastern and European labor to new and more productive fields of industry. They have made of California one of the granaries of the world, and of Colorado the centre of a new and unexpected development of the wealth of the mountains, and have planted in the antipodes a group of prosperous colonies which, as the United States of Australia, shall one day surpass the fading glories of the mother country.

It is, of course, in the United States that the discovery of the precious metals in Colorado and the regions to the westward has made itself most widely felt. Without them would have been impossible the marvellous progress which the present generation has witnessed in railroad and commercial development. Without them the financial straits of the civil war would have been much further intensified; nor would the nation's debt have been so rapidly reduced, or the nation's treasure vaults made to overflow with surplus funds. The effect on commerce has been magical, increasing the volume of imports and exports within some forty years almost in a tenfold ratio, while the increase of population has been less than threefold.

With all the leading nations of the earth the United States have established direct commercial relations, receiving and giving in exchange an endless variety of commodities. Between 1862 and 1872 her foreign commerce was almost trebled, exceeding for the latter year $1,000,000,000, and since then not unfrequently reaching $1,400,000,000 or $1,500,000,000. Of late our exports have in the main been gaining on imports, showing a balance of trade in our favor, varying from $265,000,000, its maximum in 1879, to $24,000,000, its minimum in 1887; but this is apart from specie, of which, as a country producing largely of the precious metals, we send abroad more than we receive. With Great Britain and Ireland the balance of trade is especially favorable, the total of exports to those countries amounting for 1887 to $363,000,000, against $165,000,000 of imports. This condition of affairs is due largely to the protective policy adopted by our government, developing home industries, increasing rates of wages, and opening up home markets for the products of American labor. Whatever may be said against protection by those who believe that it conflicts with the true principles of political economy, the fact remains that under that system the United States have enjoyed a degree of prosperity such as has never before been witnessed in any country on the face of the earth. Here is the only nation in the world that is burdened with a moneyed surplus, the disposal of which is a serious national problem, and that while rapidly paying off the enormous debt entailed by the civil war.

"In the race for wealth," said Gladstone, "America is passing England with leaps and bounds." And statistics prove that she has long since passed, not only England, but every other European country. Taking the four greatest of commercial nations, it was found that in 1880 the aggregate wealth of the United States was $47,500,000,000, against $43,500,000,000 in the United Kingdom, $40,000,000,000 in France, and

$31,500,000,000 in Germany, with an annual income of $7,100,000,000, against $6,200,000,000, $4,800,000,000, and $4,200,000,000, respectively, and an annual saving of $1,050,000,000, against $750,000,000, $700,000,000, and $200,000,000.

England is the only country that has adopted a free-trade policy, and that by slow degrees and after a long and bitter struggle. Taxation was first removed from the necessaries of life and from raw materials; then minor imposts were swept away, and only on a few commodities, as spirits, wines, and tobacco, did the burden rest. While envying her prosperity, without a parallel in the history of the world, except for the United States, no other nation has cared to follow her example, not even her own self-governed colonies, where, with few exceptions, protection has more or less obtained. But this does not prove that free trade would be advantageous for other countries, or will be always for herself.

As to Colorado and the Pacific coast it may be stated, first of all, that, with the exception of New York, San Francisco is the only seaport in the United States which imports directly from China, whence we receive yearly $12,000,000 to $15,000,000 worth of goods, and from Japan $7,000,000 to $8,000,000. By these two countries are supplied nearly one third of our foreign imports; but, except for a small quantity of breadstuffs, they take from us little in return, the balance of trade being maintained by shipments of specie, thus causing an incessant drain on our resources. Since the completion of our overland railroads there has been a considerable decrease in importations by sea from eastern points, about two thirds of the total being forwarded by rail, with an increasing tendency in this direction, caused by enlarged facilities and a steady reduction in rates.

In volume of exports the people of this western region rank in proportion to numbers among the foremost in the world, with an average per capita of probably not less than $130 a year, consisting mainly, apart from goods in transit, of treasure and raw materials. For 1881 the entire exports of the western coast were estimated at nearly $150,000,000, and for 1890 at little short of $200,000,000, of which about two thirds were from San Francisco, the principal articles being wheat and flour, treasure, base bullion, and quicksilver; wool, hides, and leather; wine and brandy; fruit and canned goods—most of the last in the shape of salmon, vegetables, and the surplus products of the orchards. From that city there were forwarded east by rail in the former year some 90,000 tons of various commodities, of which a large percentage were goods in transit, among them 8,000 tons of tea.

As with the eastern and western states, so with those of the Pacific coast, England is the best customer for our surplus food products, taking from us between $30,000,000 and $40,000,000 worth a year, including in favorable seasons at least 500,000 tons of wheat, or flour expressed as wheat. To France and Belgium and to Central America we also export largely of our surplus provisions; to British Columbia, Australia, the Hawaiian Islands, and Japan, of provisions and manufactured goods; and to Mexico, of quicksilver and mining machinery.

To the merchants of California, and especially to those engaged in the export of wheat and flour, the opening of the Southern Pacific railroad was a direct and immediate benefit. The rate established by the company for the carriage of wheat to New Orleans was $13 per ton, and though it was not expected that this would attract any large shipments from points within reach of navigable water, it established a maximum rate beyond which freights by sea-going vessels could not advance. It made it impossible, for instance, that ship-owners should demand, as in former years, a charter rate of $20 or more per ton, exceeding in many instances one half the value of the cargo. It shortened the time required to lay down cereals in

European ports; it increased our trade with Arizona and New Mexico; and by opening up new outlets for surplus stock, excluded from the grain business much of its speculative character. The Cosmopolitan Railway will be the means of opening to Colorado this whole western world, and furnishing a limitless outlet for the products of our mines and manufactories.

In Oregon, though less advanced than some other sections in the development of her resources, we find one of the richest and most steadily prosperous communities in the world. In the growth of her population she has largely exceeded the Golden State, the increase between 1870 and 1880 being more than 90 per cent, and in the following decade almost in equal ratio; and should this rate be maintained for half a century to come, she would still have large areas of unoccupied land. With a network of railroads already completed, making tributary to her metropolis a large extent of fertile soil, with thousands of miles of navigable water, with the abundance and value of her products, with deposits of coal and iron of unlimited extent and easy of access, with timber of thirty varieties in her forests, with streams available for water-power that never fail and never freeze—with all these advantages it needs no prophet to foretell that as yet Oregon, like Colorado, is merely on the threshold of her career.

Already she has established a considerable foreign commerce, shipping largely of her flour direct to England, where only the best finds a profitable market. Though not a manufacturing state, producing only a small percentage of her home consumption, the day will come when she will be a large exporter of manufactured goods; and such is the excellence of her woollen fabrics, that in some lines the supply falls short of the demand. In 1881, with a population of less than 200,000, her exports exceeded $20,000,000, with a wheat surplus of 250,000 tons, with a freight traffic by rail and steamer of 300,000 tons, and with 150 vessels clearing direct from the ports of the Columbia river. For Portland it was claimed that she had more wealth per capita than any city in the union, while as a seaport and railroad terminus, as a centre of commerce and manufactures, she was excelled only by San Francisco, and with a future the greatness of which no man could foretell.

As another example of development in the direction of the world-uniting railway, there is the new state of Washington. From 11,000 inhabitants in 1860, the population increased in 1870 to 23,000, in 1880 to 75,000, and in 1890 was probably not short of 150,000. To her railroad development, and especially to the completion of the Northern Pacific, this remarkable growth must be attributed, opening up for settlement vast areas of agricultural land, and often doubling in a single year the population of her railroad centres. In 1881 the surplus products of Washington were estimated at $5,500,000; in 1890 they were nearly twice that amount. In the former year they included 175,000,000 feet of lumber, 200,000 tons of coal, 100,000 tons of wheat, 5,000 bales of hops, and salmon canned and cured to the value of $300,000.

For maritime commerce western Washington is specially adapted by reason of the channels which connect it with Puget sound, with their sheltered coves, secure anchorages, and conveniences for navigation. Inland, the waters of this sound extend southward for a distance of 100 miles, with a width of from one to five miles, and, except near the shore, with a depth never falling below ten fathoms. Almost parallel with it is Hood canal, 60 miles long, about two in width, and with a depth sufficient for sea-going vessels. Says Commodore Wilkes in the official report of his exploring expedition: "Nothing can exceed the beauty of these waters and their safety. Not a shoal exists within the straits of San Juan de Fuca, Admiralty inlet, or Hood canal, that can in any way interrupt their navigation by a seventy-four-gun ship. I venture nothing in saying that there is no country in the world that possesses waters equal to these. The shores of all these inlets and bays are remarkably bold; so much so that in many places a ship's side would strike the shore before the keel would touch the ground. The country by which these waters are surrounded is remarkably salubrious, and offers every advantage for the accommodation of a vast commercial and naval marine, with convenience for docks, and a great many sites for towns and cities, at all times well supplied with water, and capable of being provided with everything by the surrounding country, which is adapted to agriculture."

Western Washington is indeed the natural centre of maritime traffic between the seaports north of the forty-seventh parallel of latitude, a region better supplied with navigable harbors than any portion of the Pacific coast. Here also, not only in Washington, but in British Columbia and southern Alaska, are the largest areas of timber suitable for spars and ship-building to be found anywhere in the world, while as to fisheries, their nearer proximity to the cod and whaling grounds give them an advantage over their southern neighbors. Already the northwest is acquiring a commercial status of its own, and year by year, with increased railroad and shipping facilities, depends less on San Francisco. As early as 1880 large shipments of flour were made direct from Walla Walla to Liverpool, and in the autumn of 1890 one of the most valuable cargoes ever shipped from Pacific ports was despatched direct from the Washington side of the Columbia river.

In Nevada, a state which in a single year has produced $50,000,000 of the precious metals, and since 1860 a total of nearly $700,000,000, there are not as yet 100,000 white inhabitants. Though mining and stock-raising have thus far been the leading industries, the day is not distant when her commercial and agricultural capabilities will receive at the hands of her citizens the attention which they deserve. More advanced in this respect is the territory of Utah, whose volume of imports and exports has increased in tenfold ratio since the completion of the overland railroad, and with a coöperative system of trading unequalled in its results.

But apart from San Francisco, the greatest commercial city west of the plains is Denver, with a volume of trade estimated in 1890 at more than $100,000,000, and for the state of which it is the capital, an assessed valuation of nearly $200,000,000 and a mining output exceeding $25,000,000. In occasional years the real estate sales of Denver exceed those of San Francisco, as in 1886, when the total was little short of $11,000,000, and that with substantial improvements and without any undue inflation of values. In 1888 the freight shipped eastward by Colorado railroads produced a revenue of $7,600,000, with $6,000,000 more from passenger and local traffic. Through the Centennial state pass three of our transcontinental thoroughfares, and from her geographical position, no less than from her commercial importance, Denver must ever remain the railroad centre of the west.

With all the Pacific states and territories, and indeed with every section of the union, the Cosmopolitan Railway, connecting with the Canadian and the Northern, Central, and Southern Pacific, would join the old world centres of commerce. From Paris, Brussels, Hamburg, Berlin, St Petersburg, goods could be forwarded direct to San Francisco, Denver, New York, or New Orleans in one fifth of the time that is now required by sailing vessel. But it is not to Europe that such a railroad need look for its traffic, but to eastern Asia; to Siberia with its several millions of inhabitants, and to China with its hundreds of millions. Over this line, for instance, would pass most of the 8,000 or 10,000 tons of tea that are now shipped by steamer to San Francisco, most of the scores of thousands of tons that are shipped by sailing vessel to London. Of Chinese exports San Francisco alone takes $12,000,000 a year, while from China and Japan the United States imported in 1886 goods to the value of nearly $33,000,000, the bulk of them consisting of such commodities as would bear the expense of railroad transportation. All this, of course, presupposes the construction of the Chinese system of railroads; but this is merely a question of time, and from the Chinese frontier to the trans-Siberian line, now being pushed forward to Vladivostok, is a distance of only a few hundred miles, through a country presenting no serious engineering obstacles.

In Siberia, with a population of about 4,250,000, there are several towns with more than 20,000 inhabitants, and there are a score at least with more than 10,000; Tomsk and Irkutsk, the principal commercial cities, having, each of them, in 1889, between 35,000 and 40,000. As we know, population always follows railways, and who shall say how great an influx the railroad will bring to this vast unpeopled region, with Asia's countless millions already at its threshold? But small as is in proportion to area the present population of Siberia, its trade is by no means inconsiderable. The yearly imports of Russian manufactures are not less than $65,000,000 to $70,000,000, while at her annual fairs, as at Irbet, Ishim, Tomsk, Irkutsk, and especially at Nijni-Novgorod, goods change hands to the amount of many additional millions.

While wages are considerably higher in eastern than in western Siberia or in Russia, commodities of all kinds are dearer, some of them much more so than on the Pacific coast. At Nijni-Novgorod $4 a month without board is considered a fair rate for laborers and wharf-porters; but these men can live on $2 a month, their diet consisting almost exclusively of black bread and *stchee*, a preparation made of beef. Lansdell relates, however, that at Nijni he heard a man boast that in good times he could earn nearly 50 cents a day; but just then he could get no regular work, and so had taken to drink. At Nikolaefsk, 75 cents is considered a fair day's wage; at Vladivostok mechanics receive a dollar a day, and laborers half as much. At the former city, American flour cost in 1881 from 6 to 12 cents a pound, and rye flour from 3 to 4 cents, salt butter about 25 cents, good black tea 75 cents, and sugar from 12 to 16 cents a pound. On other parts of the lower Amoor, prices were higher, fresh butter selling at 55 cents, and beef at 15 to 17 cents, while a live sheep weighing about 50 pounds would be worth from $6 to $7. Game, however, was plentiful, and on the coast and rivers fish were abundant and cheap, salmon weighing 15 to 25 pounds being often sold at Nikolaefsk at 2 cents each, deer at Vladivostok from 3 to 4 cents a pound, and pheasants, grouse, and woodcock at points on the Ussuri river as low as 10 to 20 cents a brace. In Kamchatka are caught in abundance several kinds of fish and game, as salmon, cod, herring, and smelt, wild geese and ducks, while in the valley of the Kamchatka is soil of a fine mould, with a plentiful growth of berries and currants.

Thus it will be seen that in Siberia, though by no means deficient in indigenous food supplies, there is an excellent opening for some of the surplus products of the Pacific coast, and especially is this the case with certain classes of our manufactured goods, as the coarse blankets and cloth, and the cheaper grades of boots and shoes with which our home markets are too often glutted. As with Australia, so with Siberia; Americans have too long regarded both countries as containing only convict settlements, with which no commercial intercourse was possible. In the latter country the percentage of exiles, whether criminal or political, forms but an insignificant factor in the population. To the former country, except in the extreme west, separated from the older colonies by more than a thousand miles of impassable desert, the transportation of convicts ceased nearly half a century ago. In all the United States there are few more orderly and prosperous cities than Melbourne and Sydney, where not one murder or suicide occurs to twenty that are committed in San Francisco; where hoodlums and foot-pads are unknown; and where the police are considered as the servants and protectors of the public, and not as the mere hirelings of venal politicians.

In conclusion, let us glance briefly at the commerce of Russia, whose trade would be more or less affected by the building of a Cosmopolitan Railway. While neither a great commercial nor manufacturing nation, Russia, considering the comparative poverty of her inhabitants, is one of the largest importing countries in the world, and among her imported commodities are several that would bear the cost of railroad freight. Of tea she imported from Europe in 1882 to the value of 48,000,000 roubles, and from China probably 20,000,000; of liquors, 16,000,000; of cotton and other textile materials, 128,000,000; of textile fabrics, 22,000,000; and of provisions, 38,000,000. From Germany alone she imported in that year goods worth 214,000,000 roubles, and from Great Britain 125,000,000. To the same countries was shipped the bulk of her exports, consisting almost entirely of raw produce, and especially of grain. Most of the internal trade was in the hands of middlemen and travelling merchants, to whom the peasantry were usually in debt, making their purchases nearly always on credit and on the security of their crops.

During this year the ports of European Russia were visited by more than 12,000 sea-going vessels, and those of Asiatic Russia by more than 1,400, less than one fifth of the total sailing under the Russian and nearly one half under the British flag. In the coasting trade, mainly between the ports of the Black sea, 35,000 vessels were engaged, and in river traffic and on the canals which connect the rivers, 51,000 boats and steamboats, carrying goods to the value of 186,000,000 roubles. Most of the latter were light, flat-bottomed craft, of such little value that they were broken up on reaching their destination. Here is indeed an opening for railroad development; for in Russia, as in our own eastern states and in European countries, railways will one day largely supersede canal and river navigation.

But in the vast domain of the tzars railroads are still more needed for speed and convenience of travel, and for the postal service, which, under present conditions, is conducted at enormous expense. Between all the leading cities and towns, except those connected by rail, and for an aggregate distance of more than 110,000 miles, mails and travellers were conveyed by post-horses, and to maintain this system required some 4,300 stations, 15,500 men, and 446,000 horses. In all the Russian empire, with its 8,500,000 square miles of territory, occupying about one sixth of the entire land surface of the globe, there are less than 20,000 miles of railway, and more than five times that length of road over which travel is still conducted as in the fashion prevailing a century ago.

The three powers that would most be benefited by the Cosmopolitan Railway are the United States, the United Kingdom, and Russia, of which the two first are the greatest commercial nations in the world. For the United States it would develop the resources of Alaska; it would foster her trade with Asia; and would establish direct communication by rail with all the old world centres. To England and Russia it would be of equal advantage as a commercial highway, and would aid in developing the rich traffic of China and Hindostan. To all the three countries it would open up for settlement a vast area of territory, and that by no means the least valuable portion of their domain. To the cost of such an undertaking, allusion has already been made. In foreign railroads, foreign loans and securities, Great Britain alone has more than $5,000,000,000 invested, and it is doubtful whether any of this enormous capital has found a more profitable outlet than would be afforded by the enterprise in question. In Alaska and eastern Siberia, as we have seen, rich mines have already been discovered, and yet both regions are still but little explored. For them it is now proposed to accomplish what has already been done for the mining sections of the Pacific states, where a single mine or group of mines, almost impossible to work at any great depth except with railroad facilities for the conveyance of heavy machinery, has yielded more than twice the amount required for a Cosmopolitan Railway.

As for political complications, it is very improbable that any serious difficulties will arise between the United States and any European power. Such questions as those of the Bering sea and Newfoundland fisheries will doubtless be settled by arbitration, if even arbitration be necessary; and apart from such comparative trifles, there is little danger of foreign entanglements. Moreover, in the event of war, the line of the Cosmopolitan Railway would be far removed from any possible centre of military operations. In such an event any obligations incurred by Russia would doubtless be fulfilled; for in this respect she has more than once given proof of her financial integrity, as in the Crimean war, when the interest on her government securities, largely held in England, was faithfully and promptly paid.

For commerce and communication there is now a degree of security that has never existed in any previous age, and never again can they wander, as in former days, from route to route; for in every portion of the world, on every land and sea, their highways are established, and to all nations they are open on fair and equal terms. Wherever there are population, industry, and industrial skill, there also is international traffic; and though one established centre may yield to another in relative importance, never will they be smitten with such utter desolation as has laid in the dust many a proud seat of wealth and civilization.

Never, except by such cataclysms of war as the superior intelligence of mankind forbids us to anticipate, will London, New York, and Denver be blotted from the face of the earth, as were Carthage, Corinth, and Palmyra. On the banks of the Thames and the Hudson, and at the base of the Rocky mountains, will stand for many a century to come these great commercial emporia, sending forth their richly freighted argosies and rail trains to every quarter of the globe. The empire of monarchs may pass away, but the empire of commerce will remain as long as the solid earth endures.

CHAPTER IX.

PROSPECTIVE.

Much of what I wrote in my former works has come about and passed into history. There is much now that we can see coming about, and which is sure in due time to become history.

In the preface to my former work, written and published in the years closing the Mexican war, 1849 and 1850, I said that everybody is acquainted with the history of the American people. Their commonwealth, established at first by a few republican families voluntarily exiled from the old world, is now, at the end of two and a half centuries, a republican empire of established continental dimensions and policy.

Restricted heretofore to so much of our continent as belongs to the Atlantic, a point of progress is reached whence our people, overflowing toward the west, embrace the regions of the Pacific ocean and establish direct and familiar relations with Asia.

This movement, long in preparation, now includes so large a force that its advance daily acquires volume and celerity. Federal legislation, to progress *pari passu* with the people, is demanded upon such a basis as shall give effect to the great central movement resulting from their energies. A liberal understanding of the mission of our people points to an expansion of the federal system to the grandest dimensions which their energies may reach.

I previously condensed into a small volume the memoranda and reflections suggested by a residence of twenty years in the wilderness, and in the midst of the pioneer people who occupy the foreground of progress and clear the track of empire.

I distinguish, as the most essential present ground of development, the interval which separates the Mississippi basin from the Pacific ocean. This defines itself as the mountain system of our geography.

The magnitude of the obstacles which it opposes to the forces of progress assembled on its two fronts sanctions an appeal to every form of help discernible to the patriotic heart. This needed help I affirmed to be the construction of the continental railroad.

Two auspicious elements in human civilization, by their rapid growth in power and importance, fix our attention—the indefinite multiplication of gold coin and international public works.

These two elements, so operating as to mutually stimulate and sustain each other, promise to enthrone industrial organization as the ruling principle of nations. America leads the host of nations as they ascend to this new order of civilization. Her intermediate geographical position between Asia and Europe and their populations invests her with the powers and duties of arbiter between them. Our continent is at once a barrier which separates the other two, yet fuses and harmonizes their intercourse in all the relations from which force is absent.

Human society is, then, upon the brink of a new order of arrangement, inspired by the universal instincts of peace, and is about to assume the grandest dimensions.

Fascinated by this vision, which I have seen appear and assume the solid form of a reality in less than half a generation, I discern in it a new power—the people occupied in the wilderness, engaged at once in extracting from its recesses the omnipotent element of gold coin, and disbursing it immediately for the industrial conquest of the world.

In the current of ages, mysteries become sciences. Vague speculation, long fermenting, and perplexed by obscure doubts, produces facts. These crystallize into precious truth. From the blind conjectures of astrology has been developed the science of astromony; from alchemy has come chemistry.

The American people now reach and cross the threshold, where they emerge from the twilight of the futile world of thought behind. They enter into the full and perpetual light and promise of political and social science.

A glance of the eye thrown across the North American continent, accompanying the course of the sun from ocean to ocean, reveals an extraordinary landscape. It displays immense forces, characterized by order, activity, and progress.

The structure of nature, the march of a vast population, the creations of the people, individually and combined, are seen in infinite varieties of form and in gigantic dimensions.

The pioneer army perpetually advances, reconnoitres, strikes to the front. Empire plants itself upon the trail. Agitation, creative energy, industry, throb throughout and animate this crowding host. Occupation, solidity, and permanence attend every movement and follow every camp.

The American realizes that progress is God. He clearly recognizes and accepts the continental mission of his country and his people. His faith is impregnably fortified by this vision of power, unity, and forward motion.

As essential to all clearness of illustration, familiarity with the geography and physical structure of the American continent seems to me indispensable.

Assuming the division of the northern and southern continents to be at Panamá, from the same point diverge the northern and southern systems of the Andes. These two systems of mountains assume special forms of structure, each one corresponding with the anatomy of its own continent. They form the backbone of the skeletons upon which the continents are severally constructed.

The southern Andes, rising out of the ocean at Cape Horn, traverse without interruption from south to north the whole length of the continent. They form a continuous escarpment not remote from the shore of the Pacific ocean, and curving with its indentations.

Approaching the equator, an expansion to the east forms the Peruvian plateau, and is prolonged into the triangle of Brazil. The prolongations in this direction extend to the Atlantic, and separate the radial basins of the La Plata, Amazon, Orinoco, and Magdelena rivers. The shape of the continent, enveloped all round by the sea, and that of the mountain system, are reciprocally fitted to each other.

The northern Andes, departing from Panamá and contracted by the seas, traverse Central America to Tehuantepec. Thence a vast expansion in width of the northern continent is accompanied by a corresponding increase in the magnitude and altitude of the mountain system.

An immense plateau, flanked by the cordilleras, expands from sea to sea. On the east the cordillera of the Rocky mountains rises flush from the shores of the Mexican gulf. On the west the cordillera Nevada rises from the shores of the ocean and the California gulf.

The Sierra Nevada, the western cordillera, like the southern Andes, rises continuously from the Pacific ocean, whose indented shore it accompanies to Bering strait.

The eastern cordillera runs obliquely from the Mexican gulf, where the latter is curved to the east by the immense increasing amplitude of the northern continent. This cordillera is flanked along its base by the Mississippi basin, whose indented shore and plain it continuously overlooks.

In the neighborhood of the 40th degree of latitude, the maximum width of the northern continent is reached. This continent differs from the southern in the magnitude of its anatomy. Its whole area, alike with each of its composing details, is thus magnified. The radial basins of the Mississippi, the St Lawrence, the Hudson bay, and Athabasca depart from it. The northern Andes here attain a breadth of 1,200 miles, and assume their most stupendous dimensions. They include many snowy sierras and a multitude of peaks.

From this latitude of greatest expansion, the mountain system contracts toward the north; the cordilleras converge at Bering strait as at Tehuantepec; they are again condensed into one. The system of the northern Andes thus occupies and elevates itself above one third of the area of North America.

Defined by itself, it is a prolonged diamond-shaped parallelogram, faced on all points by the cordilleras, longitudinal in position, 6,000 miles in length, and 1,200 in width. Its direction is from south-southeast to north-northwest. Similitude in anatomical structure therefore marks the two continents.

This similitude of profile holds equally between the two mountain systems. The southern Andes exhibit in their course through Patagonia and Chili two summit ridges parallel and in close proximity. These diverge with the increasing width of the continent, and enclose the Peruvian plateau and its extensions into Bolivia and the elevated plains of New Granada. The same peculiarity is seen in narrow Central America and the extension to the north.

If, then, the imperfectly developed anatomy of a youth be contrasted with that of his maturity, the relative resemblances and contrasts of South and North America in their whole anatomy will be familiarly illustrated.

This simplicity of structure pervading the whole system being held in the mind, it is manifest that the cordillera of the Rocky mountains is the stupendous dorsal foundation upon whose prodigious mass and solidity all the radial limbs rest. From this, including the Alleghanies, they all radiate or depend as outliers.

Into this they all ultimately group and condense themselves.

This stupendous longitudinal cordillera segregates the physical globe into two hemispheres. These two hemispheres present the basin of the Atlantic toward the rising sun, that of the Pacific toward the setting sun. Here is the supreme meridian altitude up to which the whole globe slopes.

We have seen that the American continent expands to its most complete dimensions and amplitude where it is traversed by the fortieth degree of north latitude. A symmetrical harmony, perfect in every detail, here characterizes all the departments of nature, an ample depth of seaboard on either ocean, the supreme expanse of the Mississippi basin, its great confluent rivers, the grand width of the mountain plateau, which here protrudes its extreme salient corners to the east and to the west, to this focal region rising in altitude, mass, and dimensions, from every point of the continental horizon. It here displays over its area, and in the outflanking cordilleras, a hundred snow-crowned peaks.

Here arise, in cloud-compelling majesty, the continental pillars, Long peak and Pike peak, 150 miles apart; through the intermediate space passes the fortieth degree of north latitude. From their summits depart the waters to seek the Asiatic and European seas. Hither the continental slopes mounting upward from all the oceans converge and culminate; from hence all the descending waters radiate.

Here, in the midst of the grand works of nature, multitudinous in variety, sublime in vastness, in order, and in beauty, are assembled all the natural gifts which human society needs, or may demand for the most complete development. Here the supreme cordillera envelops in its folds a group of gigantic valleys known as the system of the parcs of Colorado.

Of all the gems displayed here and there in the physical varieties which checker the earth's surface, this group is the most gigantic in dimensions; the most transcendently excellent in locality; the most wonderful, curious, and attractive.

The parcs bestride the line of way-travel of mankind at a point of paramount control. Here meet and mingle mountains, plains, valleys, rivers, in immensity of proportion, order, and graceful form. The pungent and tonic atmosphere is temperate and health-giving throughout the year. The oceans are not far off, and are easily accessible over uniformly descending slopes.

Stock-raising, agriculture, mining, manufactures, commerce, each of these has the essential elements of a conquering power; they are here all blended, each self-supporting, and each stimulating all the rest. The affluence of nature and her prolific generosity are miraculous. The parcs occupy, longitudinally, the centre of Colorado, passing through and through, from south to north. The whole area of Colorado, 107,000 square miles, is so folded around them as to constitute their frame and envelope, incapable of being segregated from them. These parcs, thus mounting from south to north, one upon the other, are of very nearly equal area. They are the San Luis, the South, the Middle, and the North parcs. The elliptical area of the San Luis parc is 18,000 square miles. Their similarity one to another, as members of one family, is perfect. The internal details of structure, form, and scenery are infinitely variegated. Each one, examined by itself, seems to surpass the rest in convenience and beauty. The climatic geniality of temperature and salubrity of atmosphere have not a single blemish. They perpetually prompt and stimulate mental energy and physical activity.

I am struggling to narrate faithfully the homespun facts of nature; to exaggerate is far from my intention. The splendid magnitude of the architecture, the faultless proportions everywhere discernible, the graceful grouping of propitious and benignant elements, the far-searching vision and resplendent panorama—all these unite to reveal to the judgment that here culminates the work of omnipotent nature, that here she has planted the heart of the terrestrial scheme.

To illustrate this wonderful configuration as with a model of diminutive size, the Alps of Europe present an example. A spectator from the supreme summit of the Helvetian peaks, beholds radiating from his feet the diverging channels of the Po, the Rhine, the Rhone, and the Danube. As they depart, the small lake basins, or parcs, of Geneva and Constance gather the drippings of the glaciers; and the river basins open out to share between them the widening expanse of the continent.

The waters of the Mediterranean sea are visible toward Genoa, those of the Adriatic toward Venice. Biscay and the German and Pontic seas are more remote. Within a horizon whose diameter is 300 miles are at present congregated 45,000,000 of pcplation, who occupy the river basins and the rugged ground.

Since the wars of Julius Cæsar, the progress of the people within this area has been sluggish and painful; civilization yet continues crepuscular, and its languid fire is maintained with difficulty. A hostile climatology, forever incubating upon nature and man, saddens labor, chills its elasticity, and stagnates hope. The evil passions of force and despair rule; the energies of labor and virtue are crushed out by a perpetually corroding pressure.

The incessant vapors from the neighboring seas, brought in by every wind, bathe perpetually the mountain altitudes; these are thus incased to their very roots with unfathomable depths of ice which never melts. The soil of Europe, saturated by chilling fogs, and veiled by them and by forests from the sun, is cold and sour—the atmosphere febrile and inimical to life.

Seamed with mountain bones from west to east—

pinched in and trenched upon around its margin by the salt wastes of Biscay and the German ocean—by the Baltic, the Mediterranean, and the Pontic seas —Europe is a promontory pendent from the solid dimensions of Asia, having only one sixth of its area. Its convex surface and ragged shores, its humid atmosphere, its large area expanding from an edge of the temperate into the frigid zone of warmth—these dwarf as well the industry as the mind of man.

Asia and Europe present a continuous snow-crested wall, east and west, from China to Gibraltar, rising abruptly and not far removed from the southern seas. From this convex crest, to the north descends as continuously a hyperborean slope withdrawn from the sun, and resting only within the oblique and chilling shadow of his rays.

In contrast, the longitudinal direction and double structure of the North American Andes opens them to the directly searching power of the meridian sun; their outward flanks receive the tempering glories of his morning and his evening beams. These old continents are, in their abstract form of structure, convex as the camel's back. The cordilleras of North America and their outliers, from north to south in direction, and ranging round near the oceans, give to the continent a vast and splendid concave structure. This incessantly receives and absorbs the direct solar rays.

North America is a sublime amphitheatre, of gorgeous fertility and transcendent proportions. The vast surface of concentric basins is uniformly calcareous; it is scarcely less in expanse of area, or more undulating than the oceans. This comprehensive area, mellow and salubrious, is fattened everywhere and refreshed by the soils abraded from the mountains. It may receive and sustain without surfeit the existing populations of the globe.

Cumulative with this is the auspicious structure of the longitudinal Sierra. Where Colorado embraces and arches over the extreme salient corner of the cordillera is found the stupendous culmination in bulk and altitude of the mountains, of the valleys, of the running waters, and of the climatology of the whole continent.

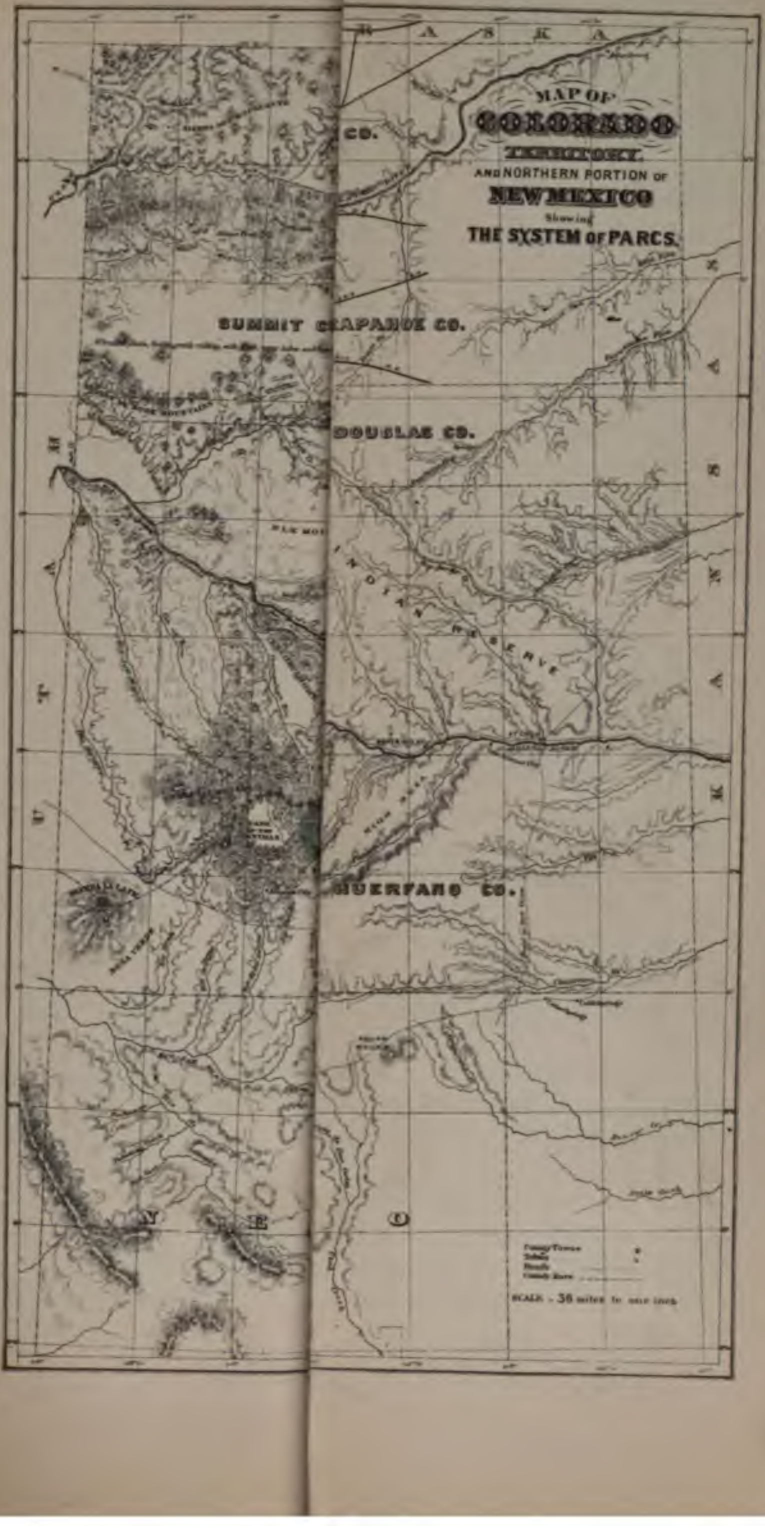
To this supreme apex the whole continent ascends, by easy gradations, from the trough of the Mississippi on the one hand, from the shores of the Pacific on the other. Here is the summit altitude of a stupendous cone of elevation, whose diameter has a width of 2,000 miles.

Into the summit area of this truncated cone of elevation are mortised to a profound depth the valleys which make up the system of the parcs. These collect and send forth the fresh waters, like the arterial blood gathered and distributed from the human heart.

From hence depart ten rivers: the North Platte to the north; the South Platte to the northeast; the Kansas to the east; the Arkansas and Canadian to the southeast; the Rio Bravo del Norte due south, into the Mexican gulf; the San Juan, Eagle, and Grand Colorado rivers to the southwest, into the gulf of California; the Green river to the northwest.

The North Platte descends, without deflection, to the direct north for 500 miles, to receive the Sweetwater. From this point the water-channels of the Yellowstone, the Missouri, and the Saskatchewan form a continuous and easy gradation to Hudson bay. Passing by the Green and Snake rivers, where their extreme sources intersect, a similar continuous gradation is found to the North Pacific. Thus upon this mountain summit of Colorado, the ascending valleys converge as so many enormous wedges, ten in number, arranged with their points grouped in contact.

The passes over the Sierra at the prolonged extremities of these valleys, reëntering thus upon one another, are numerous and easy. They complete the through lines of passage across the continent. These make a convergence here, from the two fronts of the


MAP OF
COLORADO
TERRITORY
AND NORTHERN PORTION OF
NEW MEXICO
Showing
THE SYSTEM OF PARCS.
R A S K A
CO.
SUMMIT
ARAPAHOE CO.
DOUGLAS CO.
INDIAN RESERVE
HUERFANO CO.
U T A H
K A N S A S
E O
SCALE – 36 miles to one inch

continent, resembling the globes of an hour-glass, communicating through the stem which unites them.

The miracle of these broadly expanded altitudes is their climatology. Altitude above the seas, latitude and longitude, seclusion from the seas, combine to perfect the moderation in temperature, the dryness, the salubrity, and the splendor of the atmosphere.

The northern hemisphere of the globe has around it all the continents of the land, holding the diminished seas in the intervals between them. The races white in color inhabit and restrict themselves to a narrow belt, or zodiac, girdling this hemisphere of the continents round and round. This belt straddles an axis of intensity whose annual mean temperature is 52 degrees of Fahrenheit; it has thirty degrees of breadth, being fifteen degrees to the south and fifteen degrees to the north of the axis. Incorrectly delineated on the miniature globes, this axis of intensity would correspond with the 40th degree of north latitude, and the zone of temperate warmth will embrace the belt of the globe fenced within the 25th and 55th degrees.

But profound modifications of temperature are wrought by the alternating presence and special configurations of oceans and continents; by the power of atmospheric and of ocean currents; by the subtile forces of electricity, gravitation, and the gestations of nature.

This axis of intensity is, therefore, an undulating line. It arches toward the equator, where it traverses the depths of the continent. It arches toward the north pole over the expanses of the oceans. Within this isothermal belt, and restricted to it, the column of the human family with whom abides the sacred and inspired fire of civilization, accompaning the sun, has marched from east to west since the birth of time.

Upon this axis of intensity have been constructed the great primary cities, which have been from age to age the foci from which have radiated intellectual activity and power. Inwards, and converging upon this axis, have always pressed the periodical migratory and military movements of the human masses. These, recoiling alike from northern cold and from southern heats, seek instinctively a temperate and congenial warmth.

Of this highly artificial and disciplined system of civilization we Americans form a part. It is transmitted from the very dawn of antiquity, and is inherited. History is the diary of its geographical progress, of its periods of brightness and obscurity, of its struggles and of its energies.

When society has attained its largest numerical strength, reaching the highest level of intelligence, and the longest duration, it is defined to be an empire. History occupies itself with the biography of these empires—their rise, culmination, and decadence. They form a succession along the undulating zone of the northern hemisphere of the globe, within the isothermal belt. They form within it a continuous zodiac from east to west.

These empires are the Chinese, the Indian, the Persian, the Grecian, the Roman, the Spanish, the British, and finally, the republican empire of the people of North America.

These are the essential organizations which have received, held intelligently for a few centuries each, the vestal torch of civilization; perpetuated and transmitted it with more or less fidelity. I repeat again the fact that this zone belts the globe around where the continents expand and the oceans contract; it undulates with the axis of warm temperature (52 degrees of mean heat); it contains ninety-five one hundredths of the white people of the globe and all its civilization.

As a perpetual and instinctive pressure tends to condense population on the isothermal axis, so it thins out and attenuates in vitality and numbers—repelled by hostile heats on the one hand, and by cold on the other—until the edge is reached beyond which the white races make no permanent lodgment in either direction.

On the oriental slope of Asia, between the abrupt termination of the vast mountain bulk and the eastern ocean, is found an ample region where the whole width of the temperate zone invites and fuses population. This favored area is occupied by the Chinese, whose institutions exhibit a growth of development extending over five thousand years. Never seriously interrupted, progress has so perfected a homogeneous municipal system of laws and education, that 450,000,000 of population (double that of all Europe) are united in one harmonious political system in concord and tranquillity.

But the western frontier of China is blockaded by the inhospitable mountain system which thence prolongs itself continuously to western Europe. The column of progress has recoiled abruptly from their inclement altitudes, and restricts itself to the narrow margin between their southern base and the raggedly indented seacoast.

Here the northern half, or semi-zone, of the isothermal belt has been left unoccupied; society is cut in half, crippled in territory, and fatally dwarfed in variety and numbers. It has vegetated without elasticity, unintelligent and sluggish. Everywhere pinched in or repelled by inland seas, the onward progress hence to the western shores of Europe exhibits only transient exemptions from demoralization and disorder. Absorbed by the sterile areas of the Persian gulf, the Pontic, Propontic, and Mediterranean seas, land in the southern half of the isothermal zone is here either totally wanting, or the water surface is only freckled by a succession of peninsulas and small islands, inhabited in broken links.

If, then, the area occupied by China be alone excepted, the narrow and hostile geographical structure of the margin along which the column of society has struggled through Asia and Europe explains its slow, embarrassed, and fitful advance. The small empires which have partially ripened have been distorted in form and short-lived; disordered by anarchy; heterogeneous and confused in elements. In Asia they appear emasculated by the loss of the northern temperate semi-zone; in Europe, by a counterpart deficiency of the southern semi-zone.

The instinct of the American people has located and erected the grand maritime cities of Philadelphia, New York, and Baltimore, where our continent receives the axis of the isothermal zone. Entering here from the east, and favored by the auspicious architecture of our continent, this axis of intensity traverses it athwart to the Pacific ocean.

It deviates little from the fortieth degree of latitude, arching from it slightly in the middle range toward the south. Here auspicious nature unveils every propitious gift. The energy of progress, always salient upon this line, has located along it all the first selected and chief cities—Pittsburg, Cincinnati, St Louis, Leavenworth, Kansas, Denver, Salt Lake City, Virginia, San Francisco. Here the intrepid energies of the pioneer population have first and chiefly condensed themselves in force.

But we have seen that North America is a vast amphitheatre, and is concave in configuration. Its valleys, its mountain chains, its rivers, its cordilleras, its ocean boundaries, are all alike longitudinal. The whole breadth of continent beneath the isothermal zone from Cuba to Hudson bay presents an undeviating harmony. This longitudinal expansion runs flush into the arctic zone and into the equatorial zone absolutely without any barrier or obstruction to its undulating smoothness of surface.

Nature is benignant and graceful throughout her whole scheme, and is propitious in the working of all her laws, and in every element. The longitudinal mountains receive the glory of the morning and evening sun upon their flanks, the noontide beams upon their summits—they cast no chilling shadow. The sun's immortal flame is never withheld, but perpetually instils his meridian fire through all living nature. Humanity, nurtured in this affluence of warmth, instinctively develops elasticity and immortal progress.

The contrasted structure of the continents is therefore familiarly discernible. The one convex, its surface segregated, and afflicted with perennial discord; the other concave, formed to concentrate all things, and condense them into everlasting unity, order, and concord.

In Asia resides a population of 840,000,000, distributed into 350 discordant nationalities; in Europe, 259,000,000 of population, for the most part under independent monarchies. Among these immense hosts, and over this vast area, since the dawn of history, monarchy and military despotism have been invariable and universal. The struggles to achieve the individual liberties, self-government, and civilization of the people have been few, transient, and abortive. The United States have a population of 60,000,000. With them the liberties, self-government, and civilization of the people are and have been normal and universal in principle and practice. Monarchy and military despotism have been always unknown and absent from our domain. The indestructible principles of social and political science are rescued, one by one, from the chaos and rubbish of Europe. They are known in sufficient numbers to perpetuate, to combine, and fortify themselves, to advance from discovery to discovery, from victory to victory, over force, ignorance, and blind error. Rescued from the quicksands of the past, democratic republican power, rightly understanding itself, has here set and perpetuated in the world its own indestructible foundations.

As the continents and oceans of the northern hemisphere wrap the globe in a closed circle, America is an island. She is intermediate between the oceans and the outward protruding extremities of the other continent, being equidistant from them. Europe opens all the outlets of its island seas and rivers toward the west, debouching on to our Atlantic front, toward which its whole surface slopes. Asia similarly presents to our Pacific front an oriental slope. This contains her great rivers, the densest masses of her population, and detached islands of great area. These gorgeous archipelagoes are brimful of active populations and of infinite production. The distance from the European to the Asian shores, as we accompany the sun, is 10,000 geographical miles.

These ancient masses of population, then, back to back, and descending these contrasted slopes, both front America; they face one another across America. The short line of mutual approach is the axis of isothermal warmth, penetrating four fifth of the land, and nine tenths of the population of the globe. This is the line of way-travel of all the white races, of the commercial activity and industry of the zodiac of civilization.

As, then, this interval of North America is filled up, the affiliation of all mankind will be accomplished; proximity recognized; the distractions of intervening oceans and equatorial heats will cease; the remotest nations be grouped together and fused into one universal and harmonious system of fraternal relations.

Here, then, at this moment, by the arrival of the American people on the summit of the cordillera, ascending and conquering both its flanks simultaneously, the most startling fact of all time reveals itself—auspicious to the whole human race, and pregnant with the most portentous and immediate consequences.

Suddenly the mysteries of geographical progress are resolved; light and victory substitute themselves for darkness and distrust. Why the halves of the human race, marching, the one half toward the setting sun and the other half toward the rising sun, and perpetually departing asunder, separated in the rear by insuperable physical barriers, broken apart by hostile forces and obstacles, have maintained feebly, and often entirely lost, their mutual relations, is clearly revealed.

Now, at this hour, this progress of mutual departure is complete, and completely reversed. Upon the arena of the American continent and the Pacific ocean, these columns surprise one another in overwhelming force and numbers. They encounter, face to face, and front to front. The mission of each and both manifests itself. That peace and charity are possible in the world is recognized, as that war is unnecessary, and a consuming blunder.

These multitudes behold one another; the weapons of mutual slaughter are hurled away; the sanguinary passions find a check; a majority of the human family is found to accept the essential teachings of Christianity in practice.

Room is discovered for industriual virtue and industrial power. The civilized masses of the world meet; they mutually explain and understand one another; they are mutually enlightened, and fraternize to reconstitute human relations and institutions in harmony with nature and with God. The world ceases to be a military camp, incubated only by the malignant principles of arbitrary force and abject submission. A new and grand order in human affairs inaugurates itself out of these immense concurrent discoveries and events.

The great heart of American society palpitates with new fires, impelled by a universal instinct, inspiring discipline in action and rectitude of purpose. Science illuminates their work; circumstances favor and dictate success to their energies. A divine light, issuing out of the obscurity of the past, shines upon our country and upon our people. It speaks out in the never-silent oracles of nature, in response to which each individual heart is free to reëcho and reflect. A finite goal is unveiled to them, and distinctly seen—its possession and fruition are intelligibly revealed.

The decade from 1840 to 1850 has become forever memorable by a crowning discovery made and victory won by the genius of the pioneers. I mean the gold-fever, the indefinite production and multiplication of sound money by the individual and voluntary labor of the people.

Labor and industry construct their own empire and assume the administration of governments. Steam upon the ocean and upon the land, more potent than armies, condenses labor and magnifies indefinitely its power and its results. The ameliorating influences of commerce are rescued from the despotic monopoly of riparian cities isolated on the fringe of the sea. They transport themselves in generous profusion to the homes of the people, where they live in the depths of the continents. They are diffused to them as the renovating rain of summer distils its drops to every forest tree, to every blade of grain, and to each individual flower. The consuming voracity of government is uprooted. Equality and equity in the administration of power are brought within the reach and practice of rural populations.

Whereas the energies and the conquests of the pioneer army of the people during the last quarter of a century have caused the most significant and profound changes in society throughout the world, it is necessary to illustrate the causes of this extraordinary freshness and activity.

On July 4, 1849, speaking by their invitation to the California emigrants about to depart from the Missouri river, I used this language:

"Up to the year 1840, the progress whereby twenty-six states and four territories have been established and peopled has amounted to a solid strip, rescued from the wilderness, 24 miles in depth, added annually along the western face of the union, from Canada to the gulf of Mexico.

"This occupation of wild territory, accumulating outward like the annual rings of our forest trees, proceeds with all the solemnity of a providential ordinance. It is at this moment sweeping onward to the Pacific with accelerated activity and force, like a deluge of men rising unabatedly, and daily pushed onward by the hand of God.

"Fronting the union on every side is a vast army of pioneers. This active host, numbering 500,000 at least, has the movements and obeys the discipline of a perfectly organized military force. It is momentarily recruited by single individuals, by families, and in some instances by whole communities—from every village, county, city, and state of the union, and by immigrants from other nations.

"Each man in the moving throng is in force a platoon. He makes a farm on the outer edge of the settlements, which he occupies for a year. He then sells to the leading files pressing up to him from behind. He again advances 24 miles, renews his farm, is again overtaken, and again sells. As individuals fall out from the front ranks, or fix themselves permanently, others rush from behind, pass to the front, and assail the wilderness in their turn.

"Previous to the recently concluded war with Mexico, this energetic throng was engaged at one point in occupying the peninsula of Florida and lands vacated by emigrant Indian tribes; at another point in reaching the copper region of Lake Superior; in absorbing Iowa and Wisconsin. From this very spot had gone forth a forlorn hope to occupy Oregon and California. Texas was thus annexed, the Indian country pressed upon its flanks, spy companies reconnoitered New and Old Mexico.

"Even then, obeying the mysterious and inscrutable impulse which drives our nation to its goal, a body of the hardiest race that ever faced varied and unnumbered dangers and privations, embarked upon the trail to the Pacific coast. They forced their way to the end, encountering and defying difficulties unparalleled, with a courage and success the like of which the world has not heretofore seen.

"Thus, then, overland sweeps this tidal wave of population, absorbing in its thundering march the glebe, the savages, and the wild beasts of the wilderness; scaling the mountains, and debouching down upon the seaboard. Upon the high Atlantic seacoast, the pioneer force has thrown itself into ships, and found in the ocean fisheries food for its creative genius. The whaling fleet is the marine force of the pioneer army. These two forces, by land and by sea, have both worked steadily onward to the north Pacific.

"They now reunite in the harbors of California and Oregon, about to bring into existence upon the Pacific a commercial grandeur identical with that which has followed and gathered to them upon the Atlantic. . . . . Hence have already come these new states, this other seaboard, and the renewed vivacity of progress with which the general heart now palpitates!

"Will this cease or slacken? Has the pouring forth of the stream from Europe ever ceased since the day of Columbus? Has the grass obliterated the trails down the Alleghanies or across the Mississippi? Rather let him who doubts seat himself upon the bank of the supreme Missouri river, and await the running dry of his yellow waters. For sooner shall he see this, than a cessation in the crowd now flowing to the western seaboard!

"Gold is dug; lumber is manufactured; pastoral and arable agriculture grow apace; railways rush through, advancing to the front, and reinforcing the pioneer energies with benignant power and ever-expanding velocity and force; a marine flashes into existence; commerce resounds; the fisheries are prosecuted; vessels are built; steam pants through all the waters. Each interest stimulating all the rest, and perpetually creating novelties, a career is commenced to which, as it glances across the Pacific, the human eye assigns no term."

By the exalted energy and devotion of the pioneer army, the imperilled union has been saved from obscure speculations and blind theories. We had beheld a period of repression, during which our people had been driven by malignant legislation in a maritime shell around the continent; its vast centre had been retained as a desert disc. The patriotism and energies of the people, pent up and exasperated by malignant politics, had become deformed and distorted by civil strife; our soil incarnadined with fraternal blood.

With the pioneer army rests the glory which has vindicated the mission of America, which preserves, enlarges, and perpetuates the continental union of the states, elsewhere rocked to its foundations, and enervated by nepotism to the foolish fashions of Europe.

While European sentiment and its dismal political bigotry has everywhere fometed civil war and slaughter, invaded Mexico, bombarded the West Indies and South America, filled Canada with incendiaries, and the ocean with pirates, ancient, bountiful, wise, prolific, and luxuriant Asia has cultivated and pressed upon us peace, friendship, sympathy, and the affiliation of her redundant populations and productions.

Advancing to meet and embrace this fresh and splendid arena, marching with the double purpose to assimilate with the Asiatic system and activities, and to emancipate itself from the impoverishing and sterile monopoly of the Atlantic, the pioneer army selects Denver. Here the geography and drainage of the Atlantic comes to an end; that of the Pacific is reached. Infallible instinct adheres to the isothermal axis. Here is the propitious point to receive the column from Asia, debouching from the ocean and the mountains to radiate and expand itself eastward over the unobstructed area of the Mississippi basin.

We consent to face about. The rear becomes the front; Asia in front, Europe in the rear.

Denver is in a focal point of impregnable power in the topographical configuration of the continent. It is a focal point for the great radial rivers, six in number, whose channels form a multitude of unbroken grades descending to the Atlantic. It is equally so for those streams which, scalping the escarpments of the cordillera, prolong these gradients, and graft them through and through on the counterpart focal system of the rivers of the Pacific.

The symmetrical propinquity and inter-radiation of the plains of the Arkansas and Platte rivers, enveloping and fusing into the plain of the Kansas, carry the great plains, like an undulating ocean, sheer up to the primeval cordillera. This is here unembarrassed by outliers.

The great plains form a descending slope to the longitudinal trough of the Mississippi river, basking themselves in the eastern sun. By their intense fertility and immense area, they are about to give to our people supremacy in the world. The great plains extend from the Mexican gulf to the Arctic sea. They are of a uniform drift formation, alluvial and diluvial; they have a width, from west to east, of 1,200 miles, a longitudinal length of 3,500. The destruction of the mountains forms their soils, in which every active element of fertility and production is mingled. This huge area owes its construction and its smoothness to the vast network of rivers which meander down its slope; but still more especially to the atmospheric currents flowing perpetually from the west. In this work nature employs the industry of multitudinous myriads of minute animals. The zoöphytes erect coral islands from the abyss of the ocean. Here the ants, the marmots, the badgers, the foxes, the wolves, everywhere erect their multitudinous nests from the powder and minute gravel of the subsoil. Dried by the sun, and fanned by the west wind, from each separate hillock rises, to the height of thirty feet, a whirlpool of soil. This travels from west to east a few hundred feet, bursts and sows itself broadcast. Periodically come sand-storms of force and violence, which, to a less distance, transport the fine gravel and small bowlders.

This system of natural forces, acting through countless ages, has formed by the atmospheric currents this prodigious sloping glacis. As large in expanse as is the Atlantic sea, the winds sweep over and mould its surface as completely as they ruffle the water surface and drive the waves of the ocean.

This porous drift material absorbs promptly and hides the water coming from the clouds. These waters permeate down and underflow upon the bed-rock foundation, which has the same perpetual slope and is parallel with the top surface. Elevated for irrigation by artesian wells, after use it again sinks to its home beneath, and is protected from evaporation.

Of the fattest fertility, drained beneath, everywhere supplied with artesian waters, there is no interruption to this propitious structure and uniform adaptability to arable culture. Every acre of this ocean prairie thus offers itself for the production of the cereals.

In their undisturbed nature these plains are pastoral; they have, within the knowledge of our people —within my own knowledge—sustained 100,000,000 of aboriginal grazing stock, feeding themselves upon the perennial grasses, as fish in the sea.

Animal life is as multitudinous and as various in kinds as is the counterpart marine population of the ocean. Mineral fuel, and material for building and fencing, are abundant and universally distributed. The atmosphere is uniformly moderate in temperature, favorable to health, to longevity, to intellectual and physical development, and stimulative of an exalted tone of social civilization and refinement.

Such is the grandeur which displays itself around us to the north, to the east, and to the south. Nature groups her favors in endless varieties, in the most auspicious forms, and in magnificent dimensions.

Towering above us on the west are the cloud-compelling summits of the eastern cordillera. We have seen that the system of the North American Andes here reaches its extreme departure from the oceans; its most salient angle of expansion, culminating also in supreme bulk and altitude.

Enveloped within them are the parcs; adjacent to and beyond these are the immense mountain basins of the Rio del Norte, the Colorado, Salt lake, and Columbia, all upon the expanse of the plateau.

In and around the parcs is preparing itself the mining laboratory of the world. The rare economy in structure, climate, interoceanic convenience, prolific food, miscellaneous materials and metals, constitute and locate here the paragon of all geographical positions.

The discoveries of exact science teach us conclusively what is desirable to be known. Everybody is familiar with the manufacture of shot. This is accomplished by pouring liquid lead at a high elevation through perforated moulds. Each pellet of lead descending through the air is formed into a sphere as it cools by the invisible force of gravity.

The globe of the earth has had a similar origin; once a liquid mass, now a solid gravitating sphere of 8,000 miles in diameter, such as we inhabit it. Geology explains how the material mass of this great sphere has arranged itself into layers, or shells, enveloping one another like the successive coating of an onion, or rather as the pulp of an orange with many successive rinds.

Specific gravity accounts for the relative positions of these layers one upon the other; it explains to us where and how to penetrate to their metalliferous contents. It is in the primeval rocks exclusively that the precious metals and gems are found. The base metals are found in the calcareous rocks.

Specific gravity guides us to discover the rocks in which the metals are found and when they are totally absent. If into a hollow pillar of glass there be poured a quart of quicksilver, one of water, one of oil, and one of alcohol, these liquids will rest one upon the other in this order.

If a piece of gold, of iron, of wood, and a feather be thrown in they will sink—the gold to the bottom, the iron to the quicksilver, the wood to the water, the feather to the oil. If this whole mass be congealed to ice this arrangement will remain solid and permanent. The gold must be sought for sedimentary to the quicksilver; the iron above it, but sedimentary to the water; the wood resting upon the water, but sedimentary to the oil.

In the stupendous proportions and exact order of nature a similar arrangement holds in the rocks which envelop the globe of the earth in a crust, as the contents of an egg are held within its shell. This crust, or shell, is known to be 125 miles in thickness.

These rocks, once all soft or liquid, are now all permanently solid, in the order of their relative specific gravities. But, as the bottom contents of a meadow-field are ripped up by the driving force of a subsoil plough, so the compressed fires and chaotic forces of the interior globe, tearing through its crust, have thrown up the titanic longitudinal furrow which is now the elevated cordillera from Cape Horn to Bering strait. The lowest rocks, therefore, split asunder, and driven up vertically, now form the summit of the cordillera. The rended facings of the bottom plates become the surmounting top of the Sierra. The warped sides, bent upward, form the sloping flanks of the Sierra. Piled against these, the superincumbent strata are lapped.

These appear as successive benches upon the flanks of the cordillera, forming a rugged staircase, whose steps are each of continental magnitude and dimensions. Such is the aboriginal profile of the primeval cordillera, now rasped away and ragged by corrosion and the play of the elements during countless millions of seasons.

But science, with equal truth and simplicity, ascending upward from the earth's surface, explains the atmospheres which embrace the globe outside, and handles them without obscurity. The globe is covered externally with a liquid coating of water, through which the contents protrude; this is the ocean, aqueous atmosphere, dense and visible to the eye. External to this, and resting upon it, is the shell of the aerial atmosphere. This atmosphere is invisible to the eye; but the vapors exhaled from the land and the ocean ascend into it, are condensed into mists and rain-clouds, which float through it in visible masses.

At an altitude of 4,000 feet, this aerial atmosphere terminates as abruptly and completely as has the aqueous atmosphere at our feet. Above its limit, or upper surface, the rain-clouds do not ascend, but have their termination and level similar to the aqueous atmosphere beneath. External to the aerial atmosphere is the ethereal atmosphere, beyond which animal life, vegetation, and clouds cease to exist. Physical geography defines those portions of the earth's surface within the aerial atmosphere to possess a maritime climate, those within the ethereal atmosphere to possess a continental climate. The plateaux of North America, of central Asia, and of South America enjoy a continental climate; the rest of the earth's surface lies within the maritime climate.

How perfectly the area of Colorado possesses a continental climate, and lies within the ethereal atmosphere, manifests itself to every observing eye. The illustrations and proofs of this are conclusive in every department and minute detail of nature—upon the surface of the plains, in the canopy overhead, in the mountains, in animal life, and in the vegetation.

To the traveller who ascends from east to west, at the passage of the 102d meridian, the metamorphosis over the whole landscape is complete. The surface of the earth is uniformily dry, compact, and free from mud; the forest has disappeared even from the rivers; where irrigation, other than that supplied from the clouds, is absent, wormwood, the cactus, and delicate perennial grasses only grow; the air is intensely pungent, tonic to the taste, dry, and translucent; the atmospheric pressure diminishes, and animal digestion is modified.

Across the canopy, which is intensely blue in color and brilliancy, rush incessantly, like horsed couriers of the air, cumuli clouds, burnished with and radiating silver fire. This gorgeous meteoric display of clouds is multitudinous and incessant round the year; they contain neither rain nor electricity; and descend over us with mysterious and incalculable velocity in the aerial atmosphere.

The atmospheric currents pour incessantly from the west; the mountains gather but little snow; they are naked and dry at midsummer. The rivers are without affluents, and expend their waters by evaporation. The incessant passage of clouds does not obscure the the sun, but refracts and intensifies his inspiring light. There are neither moisture, miasmas, nor perceptible exhalations of any kind. Dust is not frequent. Serenity, moderation, and purity reign within the complete circuit of the horizon. The mind of man is soothed, tempered, and modified by this immense benignity throughout nature, which infuses itself, and assimulates everything but human avarice and rapacity.

The superb richness of color and of dissolving shades is infinitely variegated and delicate. The vision, aided by the continually increasing elevation, is far penetrating and distinct in its recognitions. Within and among the mountains and upon the plateau, the rainless character, serenity, and splendor of the atmosphere are the same. All these generous attributes gather in force, and are enhanced by the superlative beauty and sublimity of their marvellous structure, magnitude, and number.

The precise facts which fix the supreme climatic excellence of Colorado are these: the latitude; the elevation above the sea; the remote seclusion from the sea. These all attain here their maximum, and unite harmoniously. This results from the astonishing and auspicious concord between the grand laws of nature, the comprehensive scale of the architecture, and the favorable local configuration.

The North American Andes everywhere prove themselves to have been driven up through the bed of a primeval ocean, of which the Mississippi basin is the still unaltered bowl. The sedimentary strata, like a nest of bowls lining the abyss, are broken off and tilted up along the indented base of the mountains.

A traveller who approaches the Atlantic seaboard, coming from the east, sees that ocean penetrating every bay, gulf, harbor, and indentation of the land, preserving an unalterable level. In the same way, wrapped against the cordillera and meandering its infinitely indented roots with the same undeviating fidelity, are seen the rended edges of the calcareous strata.

Each stratum having its characteristic color, this fringe of a departed ocean is traced without intermission lenthwise through the continent. It is easily discernible, as though a continuous rainbow were plaited in to mark the line of junction, where the sedimentary and primeval rocks join together and depart in opposite directions, each to maintain exclusive dominion.

Thus, ascending along the arc of the 40th degree of latitude, a distance of twenty miles from the plains, directly up to the summit of the cordillera, every elementary rock of the geological scale is crossed, arranged in order, and placed in position. At the lower end appears diluvial drift, the top-settlings of the sea; at the other end the primeval porphyry, upheaved from the lowest crust.

Here in economical juxtaposition and luxuriant abundance are found every metal, every rock, every clay, every salt, every alkali, fuel, arborescence, vegetation of grasses and flora—every and each element of the geological scale to which human industry applies its skill, or manufactures and converts to social use.

I am awed by these marvellous facts of nature, which cannot escape recognition. I have not discovered that they exist, or can so exist, elsewhere round the earth's circumference, in any such complete combination, of such purity and magnitude, as here—intermediate—upon the condensed track of way-travel of the populous and active zodiac of mankind.

A startling and profound novelty here displays itself and fixes our attention. All along the longitudinal plateau, altitude and the protection of the cordilleras temper the heat toward the equatorial zone; the same causes temper the cold toward the polar zone. These extremes of temperature for the day and for the night are great; for the seasons round the year scarcely perceptible. In one word, the temperature is uniformly vernal.

By this, the genial and propitious climate of the isothermal zodiac is prolonged outward upon its north flank and its south flank; it extends up and down the area of the plateau, and is felt to both its extremities.

Thus is illustrated the severe contrast among the continents, North America being in its configuration concave—all the others convex. Elsewhere, hostile structure segregates society and dwarfs its energies. In North America, a homogeneous unity of language, population, and manners is unavoidable. This is amplified by an undulating variety of contour, pervading equally the mountain system and the plains. This happy combination provokes the highest development and discipline of energy, and the most exalted civilization.

As for the site upon which the city of Denver is founded, it is preëminently cosmopolitan. It preoccupies the auspicious focus into which nature groups all her colossal elements. We are at the base of the eastern cordillera, whose summit, nowhere penetrated by navigation for ten thousand miles, forms the physical meridian which parts and unites the two hemispheres of the globe.

Here the vast arena of the Pacific basin fits itself to the basin of the Atlantic, edge to edge. The goal is reached where the zodiac of nations closes its circle. The gap between the hemispheres is bridged over forever. We are upon the isothermal axis, which is the trunk line (the thalweg) of intense and intelligent energy; where civilization has its largest field, its highest development, its inspired form.

There is an intoxicating grandeur in the panorama which unveils itself to the spectator looking out from the crest of the neighboring cordillera. In front, in rear, and on either flank, nature attains her highest standard of excellence. Behold, to the right, the Mississippi basin; to the left, the plateau of the tablelands; beneath, the family of parcs; around, the radiating backs of the primeval mountains; the primary rivers starting to the seas; a uniform altitude of 8,000 feet; a translucent atmosphere, a thousand miles removed from the ocean and its influences; a checkered landscape, from which no element of sublimity is left out—fertility and food upon the surface, metals beneath; uninterrupted facility of transit.

Behold here the panorama which crowns the middle region of our union, fans the immortal fire of patriotism, and beckons on the energetic host of our people!

Here, through the heart of our territory, our population, our states, our cities, our mines, our farms, and habitations, will be on the highway of the condensed commerce of mankind—where passengers and cargoes may, at any time or place, embark upon or leave the vehicles of transportation.

Railways, multiplied and spanning the continent, are essential domestic institutions; more powerful and more permanent than law or popular consent or political constitutions to thoroughly complete the grand system of fluvial arteries which fraternize us into one people; to bind the two seaboards to this one continental union, like ears to the human head; to radicate the rural foundations of the union so broad and deep, and establish its structures so solid, that no possible force or stratagem can shake its permanence; to secure such scope and space to progress, that equality and prosperity shall never be impaired, or chafe for want of room.

To Denver is secured a career into which all these favorable facts of position and circumferent area are now united. The North American people number sixty millions in strength. Two millions annually shift their homes. This force is, *par excellence*, the pioneer army of the North American people. This movement causes an uninterrupted pressure of the people from east to west, resembling the drift of the ocean which accompanies the great tidal wave.

Diurnally is the surface of the sea lifted up in silence and poured upon the coasts of the continents. Exactly similar to this is the movement, annually gathering force, and seen to impel our people through and through from the eastern to the western limit of the land.

The inscrutable force of gravity, which with minute accuracy holds the planets in their orbits, or causes each drop of rain to fall, sways the instinct of society. This gravitation presses from all directions upon the axis, and to the focus of intensity. This regular instinct of movement has been transiently interfered with by the artificial passions and demoralization of civil strife. It rapidly assumes again its temper and its regularity.

Our neighbors from California work up to us with miraculous energy and celerity. They bring with them the open avenue to us from Asia. The Mexican column reaches us from the south. On the north the activity is great, and in close contact. These several columns simultaneously converge upon us. They increase every moment in numbers, weight, and celerity of motion. We no longer march into the blind wilderness, dependent upon and chained exclusively to Europe in the rear. We open up in front the gorgeous arena of the Asiatic ocean.

At present, the huge city of London monopolizes the imports from the oriental world. These are stored there and retailed to the people residing in the basin of the Atlantic.

Upon the labor of the American people, so far as they participate in the consumption of oriental wares, is harnessed the frightful burden to support the British people and the British empire, and to be devoured by their voracious despotism of trade. The work of emancipation is accomplished by the intrepid energies and conquests of the pioneer army of North America. It only remains to be appreciated and accepted by the people.

We are about to supply by direct export the food and precious and base metals to 850,000,000 of neighboring Asiatics; to Japan, to China, to India, to the gorgeous islands of Borneo, Sumatra, Java, to the Philippines, the Celebes, to the archipelagoes of the Sooloo sea, and Polynesia. These are larger in aggregate area, and more populous, than Europe, and are nearer to us.

Included within the equatorial zone, but approached by us through the temperate zone, they overflow with merchandise desirable to our people, in multitudinous affluence. To us will belong the prodigious carrying trade now upon the seas, but henceforth upon the Cosmopolitan Railway and its feeders and its branches, for these infinite multitudes. The equatorial heats are outflanked and avoided. The conflict for dominion over the multiplied commerce of the world is fought, and the conclusive victory is won for our country.

A large majority of the American people now reside within the Mississippi basin, and in this Asiatic front of our continent, which is born from us. Nascent powers, herculean from the hour of their birth, unveil their forms and demand their rights. States for the pioneers, self-government for the pioneers, untramelled way for the imperial energies of the forces of the Rocky mountains and the Pacific sea, may not long be withheld by covetous, arbitrary, and arrogant jealousy and injustice.

In the conflict for freedom it is not numbers or cunning that conquers; but rather daring, discipline, and judgment, combined and tempered by the condensed fire of faith and intrepid valor.

As it is my hope in these pages to contribute what may be valuable, I adhere strictly to severe facts, and reject absolutely all theory and speculation. These facts are as indestructibly established as is the alphabet, and are as worthy of unquestioning faith and credence.

That we may look into the gathering achievements of the near future, without obscurity, and with an accurate prophetic vision, I may without hesitation submit what is within my own personal experience.

It fell to my lot, during the years from 1840 to 1845, alone, and in extreme youth, to seek and chalk out, in the immense solitudes filling the space from Missouri to China, the lines of this dazzling empire of which we now hold the oracular crown; to have stood by its cradle; to have been the witness of its miraculous growth.

It is not for me, in this season of gathering splendor, to speak tamely upon a subject of such intense and engrossing novelty and interest. I may properly here quote the concluding sentences of a report which I was required to make on the 2d of March, 1846, to the United States senate, at that time brimful of illustrious statesmen. What I said then and there, in the first dawning twilight of our glory, I will now repeat:

"The calm, wise man sets himself to study aright and understand clearly the deep designs of providence, to scan the great volume of nature, to fathom, if possible, the will of the creator, and to receive with respect what may be revealed to him.

"Two centuries have rolled over our race upon this continent. From nothing we have become 20,000,000. From nothing we are grown to be in agriculture, in commerce, in civilization, and in natural strength, the first among nations existing or in history. So much is our destiny, so far, up to this time, transacted, accomplished, certain, and not to be disputed. From this threshold we read the future.

"The untransacted destiny of the American people is to subdue the continent, to rush over this vast field to the Pacific ocean, to animate the many hundred millions of its people, and to cheer them upward, to set the principle of self-government at work, to agitate these herculean masses, to establish a new order in human affairs, to set free the enslaved, to regenerate superannuated nations, to change darkness into light, to stir up the sleep of a hundred centuries, to teach old nations a new civilization, to confirm the destiny of the human race, to carry the career of mankind to its culminating point, to cause stagnant people to be reborn, to perfect science, to emblazon history with the conquests of peace, to shed a new and resplendent glory upon mankind, to unite the world in one social family, to dissolve the spell of tyranny and exalt charity, to absolve the curse that weighs down humanity, and to shed blessings round the world.

"Divine task! immortal mission! Let us tread fast and joyfully the path before us. Let every American heart open wide for patriotism to glow undimmed, and confide with religious faith in the sublime and prodigious destiny of his well-loved country!"

When we consider what the Americans have accomplished within little more than a hundred years of their existence as an independent nation, it would appear that, with the resources at their command, nothing should be impossible in the future. From 5,300,000 in 1800, the population of the United States increased to 63,000,000 in 1890, the number doubling with almost uniform regularity in intervals of little more than twenty years. Should the present rate of immigration be maintained, and it is more likely to increase than to diminish, within less than half a century we shall have in this country more than 200,000,000 inhabitants, and on the Pacific slope not less than 20,000,000.

If meanwhile there should be no improvement in the social status of European nations, their condition, as compared with American civilization, will be almost one of barbarism. While their armies cost more than $1,000,000,000 a year, while their debt is from $25,000,000,000 to $30,000,000,000, our own government is burdened with an accumulation of surplus funds for which it has no present or prospective use. Among the principal items of European news are descriptions of the reviews and massing of troops, of military manœuvres and mobilizations, of the speeches of sovereigns breathing the words of peace, but a peace so hollow that with each returning year the nations tremble lest millions of their sons should be called upon to cut each other's throats. From America the telegrams announce only the price of merchandise, the rise and fall of bonds and stocks, with such commercial, social, and political tidings as are included in the happenings of the day.

That the Americans are the greatest of nations in a geographical sense, by reason of the geographical position no less than the extent of their domain, will not, I think, be disputed. But they are no less great as a people who hold in their hands the shaping of their own destiny, who are learning, year by year, to govern themselves more wisely, and living, as they do, in perfect security, can devote themselves entirely to the arts of peace. Nowhere in the world is there a country in which the masses live in such comfort, nowhere is labor so well remunerated, and nowhere are there such natural resources, such energy and power to unfold them. Nowhere are there so many schools, so many libraries, where rich and poor may study side by side, so many learned and charitable societies, so little of vice and pauperism, so much of moral and intellectual worth. All this is the work of a single century; what shall another century bring forth?

And what shall be said of our Pacific slope, whose communities have existed but for a single generation, but where more has been accomplished in that generation than was ever before achieved in so brief a space since the beginning of time? Here we find the settled portions arranged in three longitudinal zones, of which the most easterly skirts the base of the Rocky mountains, extending through New Mexico, Colorado, and Wyoming. Here population, first attracted by the gold discoveries of 1848, has been retained by a fertile soil and abundant facilities for irrigation. The second is the territory of Utah, with its settlements extending southward into Arizona and northward into Idaho and Wyoming. Here we have a people differing essentially from all others on this coast, one where mining is especially discouraged, as bringing to their promised land the ever unwelcome gentile. The third zone extends from the northern border of Washington to the Mexican frontier and eastward to Nevada. At first a mining region, this industry has long since dwindled to insignificant proportions as compared with agriculture, fruit-raising, and manufactures. In these three belts are included at least eighty per cent of the entire population of the slope, the remainder being scattered for the most part among distant mining-camps and stock-ranges.

So vast is the fertile portion of this slope that still remains unoccupied, so abundant are its undeveloped resources, that for scores of years to come it will sustain even a larger immigration than has occurred in the past. In California, the most densely populated of the Pacific states, there are less than seven inhabitants to the square mile; in no other state or territory is the average more than three, and for the entire slope it is probably less than one to each square mile. After making due allowance for large areas of little value, there are still unoccupied at least 250,000,000 acres of agricultural soil, with twice that surface of pasture, and nearly 200,000,000 acres of forest land, affording room for100,000,000 people before the Pacific states become so densely crowded in proportion to area and resources as are the countries of Europe. With 20,000,000 of people we should still have less than ten to the square mile, and there are few European nations that have not at least a dozen times as many.

In their primary state our industrial products are not less than $300,000,000 a year, and to these manufactures give a second value of at least $100,000,000, or more than $600 for every male adult on the Pacific slope. To the wealth of this coast is added about $150 a year per capita of its working population, and this notwithstanding a mode of living that in other countries would be deemed extravagant. Thus indications point to our western commonwealth as destined to outstrip all nations of the earth in material progress and aggregate wealth.

With the richness and variety of their resources, with their genial climate, and their advantages of commercial position, the Pacific states are destined to play an imperial part in history, and especially is this the case with California, where no sooner had her gold production reached its climax than her grain-fields, vineyards, and orchards challenged comparison with the most favored of old-world countries. Before the treaty of Guadalupe Hidalgo was signed, the placers of the Sierra began to yield their treasures, and year after year the throng of gold-seekers gathered a rich reward. At first there were neither farms nor factories; nor were they needed, for the daily earnings of a miner would purchase the product of ten days' toil in less favored lands, and food and raiment could be imported at less than the cost of home production. But soon all this was changed. Within seven or eight years after the gold discovery California began to produce more grain than she could consume; within ten years she began to export; and now on the golden state England largely depends for her supply of grain, and the eastern cities for their supply of fruit.

To the superior enterprise and intelligence of her people must be attributed the marvellous progress which the present generation has witnessed in the commercial and industrial development of California. After changing the financial conditions of the world by her enormous production of gold and silver, she has raised throughout the world the standard of prices and wages, and given new direction to commerce. She has imported from all quarters of the civilized globe the best and most skilful workmen, the most improved implements and machinery, and on many of these she has herself improved. Her people have searched all Europe to secure for themselves the fastest horses, the most suitable breeds of cattle and sheep, the most prolific vines and fruit-trees, experimenting with hundreds of varieties in order to find those best adapted to our soil and climate. In France our fruit-growers have learned the art of making wine, in Spain that of making raisins, and in Turkey that of preparing figs and prunes for market. Here has been introduced all that was most excellent in the products and inventions of other countries, and nowhere else has such skill been displayed in applying to local conditions the lessons of science and experience; nowhere have the novel appliances of labor been so numerous and efficient. But that which has already been accomplished is but an earnest of what is to come.

Of the four leading cities of California, San Francisco, Sacramento, Los Angeles, and San Diego, it is probable that the supremacy will never be wrested from the first. Denver, perhaps, with her unrivalled advantages as a railroad and business centre, may one day surpass even the Pacific coast metropolis; but between them is the span of half a continent, and the land is wide enough for both. From the gulf of California to the strait of San Juan de Fuca, or for more than twenty degrees of latitude, there is no harbor which possesses the combined advantages of that of San Francisco. Here is found a safe anchorage of sufficient depth, easy of access from the ocean, and from inland navigable waters draining a large and fertile agricultural area. To the Golden Gate converges the topography of California, and nowhere else can be the commercial emporium of the state. Within a radius of 200 miles were found the rich deposits of gold that laid the foundation of her greatness. Of a total of some $2,250,000,000 of treasure, extracted since 1849 from the region west of the Rocky mountains, most of it has come from mines that were owned or controlled in San Francisco, and there the profits have been mainly invested. There, also, the bulk of it has been handled, coined, and refined. Add to this the trade arising from the influx of immigrants and travellers, averaging at least 100,000 a year, from the imports and exports of the entire slope, nearly all of which pass through her hands, and no wonder that to the Queen City of the Pacific is accorded a supremacy that is rivalled only by the Queen City of the Plains.

Second among the commercial emporia of the state is Sacramento, with a volume of trade and manufactures exceeding $40,000,000 a year. A centre of railroad traffic for the region between the Coast range and Sierra, at the head of navigation for steamers of the larger class, and on the banks of a river which drains one of our richest agricultural valleys, the city cannot fail to maintain its prominence as a source of supply for the mines and for many interior points. By its board of trade is justly claimed an advantage over San Francisco in cheapness of storage, rents, and freights, and in exemption from wharfage and port dues. Here, also, are several large manufacturing enterprises, among them the rolling-mills and construction and repair shops of the Central Pacific.

In Los Angeles, our southern metropolis, many thousands of acres of irrigated land, planted with vines and citrus fruits, together with gardens filled with a luxurious growth of subtropical plants, combine to make that city the garden spot of California. With a population of more than 50,000; with two seaports, and railroad communication with both; with many flourishing towns and fertile valleys, all yielding to the parent city their tribute of wealth; and in the midst of a region whose agricultural and horticultural resources are being rapidly unfolded—it needs no prophet to foretell the future greatness of Los Angeles. Whenever there shall come a division of California, as come it must with increasing density of population, there will the new state assuredly appoint its capital.

At San Diego is one of the finest harbors in the United States, and one of the readiest of access, deep, secure, commodious, and inferior to that of San Francisco only in size and environment. On the line where the distance between the two great oceans is shortest, and where the mountain ranges present the least formidable obstacles to railroad construction, she is destined to become a terminal point for at least one of our transcontinental thoroughfares.

Of other cities I might also speak; of Oakland, the residence suburb of the metropolis, and with the adjacent town of Berkeley, the educational centre of the state; of San José, with 2,000 or 3,000 acres of fruit-bearing land in her immediate vicinity, and in the midst of one of the most fertile valleys in the state, already covered with orchards, vineyards, and grain-fields; of Stockton, the head of navigation on the San Joaquin, and the inland depot of our wheat trade; of Fresno, Merced, Visalia, and a score of other towns which the railroad has either brought into existence or has developed from insignificant villages into thriving commercial and agricultural centres. But enough has been said to indicate the future greatness of California, already assured by the superior enterprise and aptitude of her citizens.

Says Bancroft in his *History of California:* "He who would know the utmost that can be accomplished by the energy and intelligence of man should study the history of this state; for nowhere else can be found such comprehensiveness of plan, such boldness of emprise, such skill and daring in execution. If as yet we lack the minuteness and thoroughness of eastern and European communities, here are to be found in some departments the most remarkable achievements that have ever been witnessed in the world's industrial career. Here are the largest wheat and dairy farms, the largest stock-farms, the largest vineyards, orchards, and orange groves, the largest hydraulic mines, the largest mining-ditches, the most powerful mining-pumps and mining machinery, the highest aqueduct, the largest lumber-flume, and one, at least, of the largest saw-mills in the United States, or in any country on earth. And yet what has already come to pass, how wonderful soever in our sight, is but a foretaste of what may be expected when there are hands enough for the work to be done and consumers enough for its products.

"It seems but as yesterday since the Pacific coast metropolis was a mere collection of cabins and tents clustering among the few level acres of ground that skirted the waters of the bay, the mud-flats and sanddunes, the steep, rocky hills, and the swamp-covered ravines. Never, perhaps, was a more unpromising site selected, and never did skill and enterprise achieve so quick and complete a mastery over the obstacles of nature. To-day those hills and ravines are covered with a city ot over 300,000 inhabitants, stretching forth east and north to the shores of the harbor, westward almost to the Pacific, and southward beyond the Mission hills, where in pioneer times the only wagon-road passed through miles of loose and shifting sand. Here have been erected some of the finest public and business buildings, some of the most tasteful and commodious residences, in the United States; here is one, at least, of the largest, and more than one of the best-appointed, hotels and restaurants; here are theatres, churches, schools, and libraries such as are seldom found in cities of equal size; here are facilities for commerce, for travel and communication, such as are excelled by few eastern or old-world centres.

"And what will be the condition of this state a few generations hence, when the moral and political status of the community shall be on a par with her material greatness; when trickery and demagogism shall give place to honest and enlightened statesmanship; when manly worth and intellectual culture shall be recognized; and when from the heterogeneous elements of which our western commonwealth is composed, shall be eliminated their impurities and debasing influences? Here, let us hope, will be the favored land, where social science will find its most fitting sphere; here the accumulations gathered from the vast storehouse of human experience; here the abode of all that is best worth preserving in the art, the science, the literature, of the world; and here, if California be true to herself and her higher destiny, may be found one of the highest forms of development of which humanity is capable."

While speaking thus of California, it is not intended to exalt her above all, or any, of our Pacific sisterhood of states, but rather to present her as their type and representative, for that which I have said of California applies in greater or less degree to others; nor is it by any means assured that she will always retain her preëminence. If she has thus far accomplished more than the rest, it is only because she is older, more thickly populated, and with resources capable of more speedy development. Her citizens differ not from theirs, except that men of means and ability are apt to congregate more largely in the great centres of wealth and population. In all may be observed the same general characteristics; and where on this coast shall be found a community that does not consist in part of old Californians?

There are several of the Pacific states and territories in which, especially within the last decade, greater relative progress has been made than in California, and especially is this the case with Oregon, Washington, and Colorado. Said a prominent San Francisco banker, after returning from a trip to the northwest in the autumn of 1890: "The growth of that region has been magical. It is due, among other things, to the fact that several overland railroads terminate there, and their branch lines reach out into and have aided to develop some of the best land to be found anywhere in this nation. Then Puget sound—the sound makes the cities surrounding it great commercial points from which to distribute the products of the country to every part of the world to which our commerce extends. Its lumber business has increased to such a volume as one who had not visited the country would have little or no conception of. The state of Washington ships large quantities of timber to Australia and the islands, and all along down the Pacific coast. The lumber industry has become a source of immense revenue, and it is building up such a number of large, prosperous towns as would be surprising to those who have not taken the pains to inform themselves about that vigorous young community.

"The country is settling up very rapidly—I think very much more so than California—and with a population drawn mainly from the eastern and northern states. In fact, the class of citizens such as I have seen develop there is inferior to none that I have ever observed for push, thrift, and enterprise. Fourteen months ago Seattle was in ashes, and hardly a building was to be seen throughout what had been the thickly populated part of the town. Now it is a a large, prosperous city, with buildings that would do credit to any in the union. It seems almost impossible that a city of such magnificent proportions, with buildings of such elegant architecture, should have been built up in so short a time. The whole place is like a vast beehive, teeming with workingmen, and alive with a large and busy trade. It gives every promise of a yet greater growth.

"Another instance of the same thrift and energy and its results is to be found in the town of Anacortes, one that is already prosperous, though as yet but starting on its career. Its site is among the woods, where fifteen months ago not a tree or a bush had been cleared away. Now it has a population of between 5,000 and 6,000 people. It bids fair to be the terminal point on the sound of all the great overland railways. It is almost directly opposite to Port Townsend, and in my opinion threatens to be a rival of Seattle itself, and to be eventually the leading commercial town of all that country.

"I am confident that the second city of the Pacific coast is to be on Puget sound. Whether that city will be Seattle or Anacortes is a question of time and of the public spirit of the citizens. There is a magnificent empire growing there, coming into existence like a young giant. The whole country was a great surprise to me, as it will be to all our citizens who have not given attention to the great movement in the northwest. San Francisco herself had better be careful of her laurels, for she has a very formidable rival on the sound. They are giving far more attention to extending their railroad systems and to bringing in new ones than we are, and I should like to call the attention of our people to the necessity of giving encouragement to railway systems to build up this country before too much of an advantage is gained by those wide-awake men of the sound in this great and important matter. The surroundings of the sound are magnificent, and the whole state of Washington impressed me with the fact that it is destined to be one of the most wonderful states in the union."

If in the future the people of Washington should display as much enterprise in railroad development as they have done in the past, it is certain that on Puget sound will one day be established a great railroad centre. From the day when congress made an appropriation for a survey terminating on the sound, their attention was fixed on the project for an overland railway. By the legislature of 1857 a territorial charter was granted to the Northern Pacific, the line to be completed within ten years after the passage of the act. Soon afterward a resolution was forwarded to congress, stating, among the reasons why the line should be built, that it was the shortest and cheapest route between the two oceans. For a time the evolution of this enterprise was retarded by the civil war, though in the end it was hastened by that event.

By the territorial legislature of 1865-6 a resolution was passed declaring its intention to render all possible aid, and by the next legislature a memorial was forwarded to congress, complaining, not without reason, that the subsidies voted for the central and southern routes were much more liberal than those granted to the northern road. First of all, they said, Washington was entitled, on account of her poverty, to share in the bounty of the nation, while California was rich enough to build an overland railway of her own. Second, the northern road would, through its geographical position, develop a commerce of far greater value than the central, and from the nature of the land through which it passed, would attract a much larger agricultural population. When it was first proposed to connect the central road with Portland, another memorial was sent, declaring that such a project would be "a ruinous and calamitous mistake, detrimental alike to the nation and its interests on the Pacific coast." Thus did the people in their eagerness for a line from Lake Superior to Puget sound regard the action of the government and the railway corporations.

According to the terms of the charter granted in 1864, the Northern Pacific received no subsidy in bonds, though its land grant was on a liberal scale. The company therefore found much greater difficulty in raising the necessary funds than either the Central or Union Pacific. It was not until 1870 that contracts were let, and that after two extensions of time. With the aid of Jay Cooke and company work was then continued on the several sections until 1873, when, through the failure of that firm, construction was suspended. Two years later, after passing through bankruptcy, the reorganized company resumed its task, and in the autumn of 1883 a portion of the road was finished by way of Portland and the Columbia river pass, though it was not until 1887 that the entire line was completed.

Thus, after many delays and drawbacks, railroad connection was established between Puget sound and Lake Michigan, by a line running almost parallel with that of the Canadian Pacific. In 1888 the Seattle and Northern railway was incorporated for the purpose of building a road via Whatcom to the northern boundary of Washington. Thence to Port Moody, the terminus of the Canadian Pacific, is a distance of less than thirty miles, and one that, except for the bridging of the Fraser river, presents no engineering obstacles.

Through the Canadian, the Northern, the Central, Union, and Southern Pacific, with their eastern connections, a Cosmopolitan Railway would open direct communication between the old-world continents and and every portion of the United States. It would foster the commerce of all civilized nations, imparting new impulse and direction, and opening up fresh avenues of trade in regions from which we are now as much excluded as from the wilds of central Africa. Moreover, that which the railroad has done for Washington, and indeed for every section of the Pacific slope, it would accomplish also for the territory north of the Canadian Pacific, the greater part of which has never yet been trodden by the foot of civilized man.

Of Abraham Lincoln it is related that when introduced to Dr Russell, the well-known correspondent of the London *Times*, he observed: "The *Times*, sir, is a great power among the people; in fact, I know of nothing that possesses such power, unless it be the Mississippi." If the great president had lived to make such a remark to-day, he would have substituted the word railroad for Mississippi.

Perhaps there is no better illustration of the influence of railroads on national development than is to be found in Colorado, a focal point of our railway, no less than of our topographical and river systems. Witnessing her growth, as I have done, from the very inception of her career, it has always been a source of satisfaction that I succeeded in securing as her territory so large an area on either slope of the Rocky mountains. If on the western flank are found her most valuable mines, on the eastern side is found the largest expanse of fertile land, and through it pass already three of our transcontinental lines, with branches either in existence or projected, almost as numerous as those of southern Nebraska.

It was not until after the advent of the railroad that progress, long retarded by civil strife and Indian wars, began to give earnest of its present dimensions. As late as 1870 Colorado had barely 40,000 inhabitants, of which less than 5,000 were residents of Denver; but four years later the population of both had increased in threefold ratio. In Denver alone there are now more than three times as many dwellings and business buildings as at the former date could be found in all the territory. All this is the growth of twenty years, and as yet only a beginning has been made in unfolding the resources of the silver state.

Of her mines of gold and silver I have already spoken, and there is every indication that Colorado will long retain a leading position among the bullion-producing regions of the west. Iron, zinc, and copper are more widely distributed than in any of the Pacific states, while with a coal area of more than 7,000 square miles, her output, already exceeding 250,000 tons a year, is limited only by the demand.

In eastern Colorado, wherever irrigation can be had, abundant crops are assured of grain and vegetables, and fruit of all such orchard and garden products as thrive in similar latitudes in the eastern states and in Europe. In special demand is the white, dry flour produced from her wheat, of which 40 to 50 bushels are no uncommon yield. In the parks and higher valleys are pastured countless herds and flocks without shelter or artificial food, and so excellent are the native grasses that in winter, even when withered, they are preferred to any fodder that husbandry can furnish.

Nowhere in the world is there a more luxuriant flora, and nowhere a more invigorating climate, than in the plains and foothills of Colorado. "The color of the landscape," remarks Sir Charles Dilke, "is in summer green and flowers; in fall-time yellow and flowers; but flowers ever." "An air more delicious to breathe," says Bayard Taylor, "cannot anywhere be found; it is neither too sedative, nor too exciting, but has that pure, sweet, flexible quality which seems to support all one's happiest and healthiest moods." As a sanatarium, especially for the consumptive and asthmatic, Colorado has long since become world-famous, and almost throughout the year such popular health resorts as Manitou and Colorado Springs are thronged with visitors, most of them persons of means and culture, forming a most desirable and often a permanent addition to her population. Not least among her hygienic advantages are the numerous mineral wells and springs, as the soda springs at Manitou and Cañon City, the sulphur springs at Fairplay, and the thermal springs, both sulphur and soda, at Del Norte and in the middle park.

In Colorado we find one of the most intelligent and enterprising communities in our Pacific group of states, and of this we have sufficient evidence in the growth and status of her metropolis, in 1860 a mere cluster of cabins and tents, in 1890 ranking second only to San Francisco in commerce, wealth, and population. With a territory carved out of the two great agricultural states of Kansas and Nebraska, the two great mining territories of New Mexico and Utah, it were strange indeed if Colorado should be wanting in resources, or in the men and means to develop them. Here is in truth the seat of future empire, an empire destined to be greater and more prosperous than was ever the domain of earthly potentate.

One thing only is lacking in the silver state, in common with all others on this coast, and that is the development of their manufacturing capabilities; but this in due time will come with cheaper labor and capital, and nowhere sooner than in Colorado, with her abundance of water power and material. The entire value of all the commodities manufactured on the Pacific coast is probably not more than $150,000,000, of which about $80,000,000 represents the cost of raw produce, $33,000,000 the second value which labor adds to it, and $37,000,000 the interest on capital and miscellaneous expenses. If the demands of our tanneries, woollen mills, and other factories were sufficient to consume the entire product of our raw materials, the volume of home manufactures would be more than doubled; but at present most of these materials are sent abroad, and often returned to us with three or four fold value in the shape of finished goods. More than once in former years we have imported from New York flour made of the wheat which was shipped to that port the year before, and thus our grain has made a double voyage around Cape Horn of nearly 40,000 miles in length. Even yet we ship east or to Europe more than 80 per cent of our clip, and that not only unworked, but even unwashed, paying the freight on the grease and dirt which it contains, and taking it back in the shape of textile fabrics, with all the added charges of manufacture, commissions, and transportation. No further illustration is needed of the backward condition of these industries.

Manufactures, it has been well said, are the backbone of a community, for while mining may attract them, and agriculture may sustain them, manufactures are needed to consume the products of both. In addition to cheaper labor and capital, we need more and better outlets for our wares, since here there is, for whatever reason, a prejudice against home-made goods. The men must have their imported broadcloth; the women their imported stuffs and trimmings; and probably there is not a dressmaker on the Pacific coast who would dare to sew on her customer's dress a button of home manufacture.

The natural outlet for our manufactures is not only in the Pacific states and territories, but in Mexico and Central America, in British Columbia, Australia, and New Zealand, in the Sandwich islands, China, and Japan. In several of these countries are found exceptional advantages, as in British Columbia, which taxes our fabrics lightly, and in several of the Australian colonies, which tax them not at all, though each one pays us heavy toll on its exports to the United States.

Of the markets which a transcontinental railroad would open to Pacific coast products, and especially manufactured products, I have already spoken. In Russia, for instance, with a population far exceeding that of the United States, the total value of Russian manufactures is probably less than $800,000,000, against more than $7,000,000,000, or nine times the amount in the former country. Of all the civilized nations of the earth, the Russians are in this respect the most backward, and such manufactures as there are depend largely on the crops, and are mainly carried on in the homes of the peasantry during the long winter months. In Siberia factories are almost unknown, and there, as in eastern Russia, would be a probable outlet for the cheap, coarse fabrics with which our home markets are constantly glutted.

Notwithstanding some drawbacks, there is unquestionably a great future for our Pacific coast manufactures, and of some of the Pacific states it has been predicted by political economists that at no very distant day the products of their factories will exceed in value both mining and agriculture. Judging from the past, there is little doubt that we shall more than keep pace with other countries in this respect, though with the prevailing prices of labor and capital we may in some lines be undersold for a time by eastern and foreign goods.

To whatever branch of industry we turn, that which has already been accomplished fills us with hope for the future, and the more so because all that has here been done is entirely the work of our own hands. By the people of this coast as individual communities their states and territories have been organized and their laws established. By them every town and city has been founded, every road and railroad built, every farm, orchard, and vineyard cultivated. Once having taken possession of our shores, civilization has already begun to assume imperial power, and one which, without the least tendency to separation, as a Pacific coast republic, must exercise a paramount influence on the world's commercial and industrial career. If in our past there have been episodes that we would fain expunge from the page of history, it is not for the past that we live, but for the present and the future. Work is the strongest element in life, and successful work one of its noblest satisfactions. There is no pride more honorable than that which arises from success in planning and carrying to successful completion enterprises requiring prudence, toil, economy, and fixedness of purpose, combined with a knowledge of human nature and of business relations. Such pride is not rare in this our western commonwealth, and let us hope that it never will be; that the consciousness of what we have ourselves accomplished will ever be to us a source of far greater satisfaction than that which results from the accident of birth, from ancestral fame, or ancestral riches.

CHAPTER X

EMIGRATION AND IMMIGRATION

The rights of man in relation to each other are at this day better defined than in any previous age. Fortunately, kingcraft and priestcraft have lost much of their power, and only among the most ignorant and stupid of mankind are fallible men now permitted to stand before the people as the infallible representatives of a supreme being, with power delegated from on high to bless and curse, to save or destroy. The struggles of church and state, such as appeared in the eleventh century, and about the time of the Lutheran reformation, can never be repeated. The mind of progressive man can never again be brought so completely under the dark clouds of religious and political tyranny.

But the rights of man in relation to law, government, and society are by no means so well defined. There are many social, economic, and political questions yet to be solved. How far the will of the individual is to be given up or passed over to the machinery of government; to what extent men must submit to the absurdities, impositions, and iniquities of the laws and regulations made by their fellows; how far the majority may rightly impose opinions and penalties on a minority; how far nations may reasonably and in honor attempt to regulate the policy and conduct of other nations, or the movements of people belonging to other nations; and what rights the state has over the individual—these and a hundred other like questions still remain open to intelligent discussion.

Artificial stimulus, applied to industrial development and resulting in over-production and stagnation in trade, is sometimes as disastrous to the social and political equilibrium and well-being as agricultural failure and famine. Artificial stimulus will be followed by artificial disaster whenever the development engendered by railroads is not met and relieved by the railroads. It is the fault of government if ever the right of eminent domain be recklessly or corruptly granted, or if public property be squandered to produce artificial expansion resulting in financial disaster.

Reciprocity treaties are too often on the theory that the greater advantages of trade accrue to the seller, and that it is a palpable loss for a nation to permit its silver and gold, the products of its mines, to flow abroad into the outside channels of the world's commerce.

The object in emigrating is obviously to better one's condition. When famine or other distress overtakes a people, if possible they seek a better country. Thus it is all over Europe; yet, while the primary cause is economic, other issues, political and social, as military duty, freedom of opinion and speech, and citizenship, have also their influence.

Immigration signifies the infusion of foreign blood into society and the body politic, and the influence and economic effect of this infusion depends entirely upon the nature and quality of the new blood. And this is to be considered, not from one point of view only, but from several, such as the moral, the religious, and the economic aspects. Not that religion has much to do with morality, or morality with political economy, but all these and similar influences have much to do with the welfare of society and the progress of the race.

But however paramount may be our duty to weigh well the influence of immigration on our politics and morals, it is in reality its effect on our economic well-being that chiefly regulates our action in the matter, and this whether real or imaginary; indeed, we are more apt to allow the imaginary to take the place of the real in discussions of a subject than to limit ourselves to practical and truthful views. Many plagues are brought forward which never had existence, while others and more pernicious ones are overlooked or passed by in silence. At the same time no account whatever is taken of much that is beneficial to politics and society by the infiltration of varied new traits and experiences for the tempering of society. By constantly throwing aside the more degenerate parts of human nature and conditions, and adding those which are elevating and improving, there must be, of course, a steady change for the better.

The appearance in our industries of English or other foreign capitalists in the form of syndicates or development companies cannot, for instance, be regarded by intelligent Americans otherwise than with favor. To bring from abroad money, intelligence, and experience, and expend the same in working agricultural lands, in stock-raising, mining, or manufactures, must surely have a tendency not only to add to the wealth of the country, but to elevate and improve both industries and people. When we see a young man squander his inheritance, we set him down as foolish, with perhaps a tendency to vicious habits. Our liberties and our institutions are our birthright, which we prize above wealth or any other inheritance. Yet, when we bring from abroad and incorporate in our body politic the low, the ignorant, the vicious, placing them upon a political equality with native citizens, and admitting them to all public offices save only those of the presidency of the United States, we not only divide our patrimony, but degrade it.

Smith, a professor of Columbia college, takes the very singular ground that the nation has the right to the soil which will make the best use of it. The colonization of America by Europe is justified on this basis: "It is the right of the higher civilization to make the lower give way before it"; "the higher civilization has a moral right to triumph over the lower, for it is in this way that the world progresses," and so on—all of which is illogical, not to say absurd.

If the people who make the best use of land have the best right to it, then the persons who make the best use of any kind of property have the best right to it. If the robbery of America by Europe may be justified on any basis, then any robbery may be justified. If it is the right of the higher civilization to make the lower give way before it, then may the strong and intelligent man impose upon the weak and simple as he pleases. Does this man teach in his school that the world's progress is righteousness, holiness, justice, goodness, and truth? He goes to feudalism for examples to govern our politics, just as he would go to the beliefs of barbarism to tell us the true religion.

The two great stimulants to progress in the United States during the past half-century have been free lands, or lands almost free, and railways. Indeed, the quickness, cheapness, and comfort which now attend travel, as compared with transportation twenty years ago, amount in their results to a revolution in the world's intercommunication and industry. Cover Russia with railroads, and politics and society would in due time be completely changed. Safe, comfortable, cheap, and speedy travel will not long allow religious or political despotism to exist beside it.

Colonists and immigrants by no means signify the same. So far as America is concerned, there is a vast difference between those who came first, subdued the wilderness and planted institutions, and those who came later, for the most part to reap from the benefits before developed. The former were colonists; the latter immigrants. There is no great difficulty in fixing the point where colonization ceases and immigration begins. In the United States we may fix the date at about 1820, by which time principles and politics were pretty well defined and permanently established.

For thirty years none who came were questioned as to their right or purpose. Land was plentiful, and laborers were deemed desirable. The more forests cleared, the more manufactures established, the more mouths to feed, food being abundant, the better. All this helped to make a country, to build up a nation rich, powerful, and free. It was only when California gold was found plentifully strewn along the base of the Sierra that Americans began to question the rights of foreigners to come and gather it, giving nothing in return. They quarrelled with all alien gold-seekers, white, black, and yellow; they fought Frenchmen, drove Mexicans out of the country, and butchered Chinamen. But because, perhaps, the Mongolians were here in larger numbers, were more thrifty, more patient and persistent in their mining efforts, more economical and exclusive in their habits and traditions, caring nothing for American politics or society, having no desire to rule American citizens or marry American women—for these or other reasons the arm of resistance fell more heavily on the Chinese than on any others. I do not say that this was not all right and proper; the American people must determine that question for themselves; but if so, is it not time to consider how far the country is affected, for good or evil, by some other people of slightly different shades of color?

It seems a short-sighted policy in the people of the Pacific coast, who want commerce and manufactures, whose rich resources in their development are still eclipsed by the more brilliant achievements of many of the cities of mid-continent, thus to throw away their grandest opportunities at the clamor of demagogues and low Irish voters. It has not been long since our fourth of July orators were ranting over the superiority of our liberal ideas and institutions to those of the exclusive Asiatics; churches and Sunday schools were full of the grace, mercy, and peace with which we welcomed benighted heathen to our shores, saving in this the trouble and expense of sending missionaries across the ocean.

Colonization is a subject which, like most others, may be divided and classified. The emigrations and immigrations of these latter days are quite different from the early migrations of peoples. Theirs was the movement of a tribe or nation into a neighboring territory with the determination on the part of the invaders there to remain, whether the rightful possessors were pleased or not; then there were the missions for conquest, for trade, for agriculture, for proselyting, each requiring its peculiar class of factors and factories.

What may have been when men were first made, we have no means of knowing, but since the dawn of civilization the world has been undergoing constant changes by reason of the intermixtures and movements of its inhabitants. How different all would be if at the beginning every nation had said to every other nation, as the United States now says to China, Rest you there; come not here. The divers political divisions in our geographies could then be easily colored —a white Europe, a black Africa, a yellow Asia, and a copper-colored America. Had America and Australia compelled Europe to remain at home, what would be the condition of that land to-day? Europe, however, was stronger than America, Australia, or India, and the gods ever regard with favor the rights of the stronger.

The migrations of the present century in the main have been neither conquests nor colonizations, but immigrations. They have until recently been freely permitted among many of the nations, the very free and enlightened United States and the very exclusive and barbaric China being now the most conspicuous, each in keeping the other out of their country. It is about the first instance where a civilized nation has complained of the manual labor performed for them by the uncivilized. We are generally willing that others shall perform our drudgery, and are so still; but we prefer to select our servants, or rather the servant prefers to select his master, and so the Irish voter instructs congress to drive out the Chinese.

But all this has changed. Commerce across the great sea has been cut off; industries in a great measure have been stifled for lack of cheap and competent operatives, and the whole seaboard retarded in its development at least a quarter of a century through the folly of Americans in permitting themselves to be influenced to their damage and shame by the low foreigners whom we have made our masters.

It is true that, as a rule, the young and strong, or at least the middle-aged, are the ones who leave the country of their nativity for another, and also, that the number of males who migrate is greater than the number of females, leaving at home a larger proportion of old people and children; nevertheless, with a portion away, there is more to eat for those who remain, and although some of the best strength of the nation has been drained, enough of laborers remain to perform all the requirements of those dependent upon them.

A very pertinent question we may ask ourselves, while so rapidly rolling up wealth and increasing population. What place is our nation destined ultimately to fill among nations, and our people among peoples?

Throughout the two Americas, race barriers are being gradually broken down; the political estrangements which Europe deems necessary to the integrity of its several parts, and the balance of power, are in a fair way of being eradicated. The idea of American brotherhood first took form in the Monroe doctrine, which, however, was a negative rather than a positive promulgation of the principle. At the same time, while refusing to allow Europe to interfere in our affairs, our government as positively resisted any tendency of its people to take part in the quarrels of Europe.

There are many reasons why Russia and the United States should join hands in this greatest enterprise of modern times, the Cosmopolitan Railway through Alaska and Siberia. And, first of all, the wide differences between them—the extremes of customs, politics, and cultivation—tend to unite them. Probably there are fewer opportunities for disagreements and jealousies than may be found among any other of the first-class powers. Both are in the full tide of progress, though the great American republic elucidates the latest modern ideas of improvement, with the freshest intelligence from every quarter and pronounced energy at home, while Russia is slowly emerging from the *débris* of the dead cultures of the east. Yet both are giving up their barbarisms—America her slavery and polygamy, Russia her serfdoms and tyrannies. Then, again, both are among the largest and strongest among civilized powers, both in territory and population, and both are growing larger and stronger, while the other powers of christendom are falling into decay. Build this railway between them, and America and Russia may join hands against all the rest of the world, on any issue, military, commercial, and industrial. Then, indeed, this back way to India, of which Columbus dreamed, and for which his successors searched, will become the chief highway of the nations, the front and finishing line of progress, circling round the warm and hospitable Pacific, whose shores are pregnant with limitless undeveloped resources, leaving the cold Atlantic to those who choose to navigate it.

In regard to the position and probabilities of progress in the United States, it has been remarked that "the fulfilment of a master *rôle* in the history of civilization can no more be evaded by the United States than it could by their prototype, the Roman republic. For upwards of five centuries Rome restricted her ambitions to the Italian peninsula, and after circumstances forced her to assert predominance in the regions of the west, her statesmen hesitated to extend the sphere of their ascendency across the Adriatic. It was the current of events, and the tendency to transform moral into political influence, that gradually made Rome mistress of the eastern Mediterranean. It was her ultimately acknowledged mission to uphold peace and order, and to safeguard civilization against assaults threatened from below as well as from above. No one who contemplates the unparalleled growth of our material power, and who contrasts the bulwarks of social order in this country with the state of things in Europe, can doubt that a mission analogous to that of Rome must one day fall to us. It is true, as Macaulay has said, that what the modern world has to fear is not an eruption of outside barbarians, but a no less calamitous upheaval of the proletariat from below. It is not Attila, but a Spartacus, in whom the future may have recognized the scourge of God. Were Macaulay now alive, however, he would own that the danger of a social cataclysm is far more imminent on the eastern than upon the western side of the Atlantic, and that if modern civilization is to be saved from shipwreck, it will be by the United States. To be the beacon-light and the sheet-anchor of humanity—such is the manifest destiny of the great American republic. The time will ultimately come, and perhaps is not distant, when the people of this country will cease to content themselves with serving as the model of a well-adjusted commonwealth, in which the muniments of civic order co-exist with the guaranties of legitimate liberty. A wider and more lively sympathy, a keener perception of the solidarity of nations, may lead us in the end to feel that our duty implies something more than offering a bright example, and that it equally behooves us to acclaim and champion those who follow in cur path. The republican propaganda, upon which France rashly and prematurely entered, it may eventually devolve upon us to carry out without risk to our own interests, and with incalculable benefit to the brotherhood of man. Let us trust that the time will come when our summons to freedom will ring like a tocsin through the monarchies of Europe, and when the fear of our resentment will shield the Christian peasant from Kurdish outrage in Armenia, and the exiles in Siberia from the Russian knout. Such an outcome of the transcendent success of the American experiment is no less certain than the process of the suns. It will be seen in its due season. The stars in their courses fight for it, and though the present generation may not live to behold the spectacle, it will enchant the vision of posterity."

The great advantage to the race of railways, particularly of international roads connecting continents, and each owned and operated by its government, may be imagined when we consider that the extent and comfort of migrations depend upon the facilities and methods of transportation. It makes a vast difference whether emigrant ships or cars are filthy, unhealthy, unsafe, without opportunities for obtaining good food, or the reverse.

Europe is now sending forth every year a million of her people, never to return. In due time America will be filled to overflowing with her own and other populations, and will in like manner be seeking more room. The economic effect of emigration upon a country depends upon the quality of outward-going population. Paupers can be best spared of any; next, pleasure-seekers and other non-producers; least of all, artisans and laborers. But when we consider that in Europe the natural increase more than equals emigration, and that it is not usually the most valuable part of the population, from an economic point of view, that emigrates, and that they must emigrate or become overcrowded, it seems almost an unmixed blessing.

To the European peasant the chance to become a land-owner is the strongest of all possible inducements. In England not one in twenty of her population, in

Scotland not one in twenty-five, and in Ireland not one in eighty, is an owner of land. Even of this small proportion the holdings are often less than an acre apiece, one half of the entire surface of the United Kingdom being owned in estates of more than a thousand acres. To make room for a deer-park or a game preserve, scores of families have been evicted, and no wonder that people subject to such outrages seek in our broad domain a homestead which they can call their own. Said Carlyle, in speaking of America: "You may boast of your democracy as much as you please, but it is the vast quantity of land and the sparse population which give you your great prosperity." There is much truth in the remark, and to this it is largely due that in the United States there is so little of actual pauperism except that which is imported.

Of the three principal countries from which our immigration is derived, Germany, Italy, and Ireland, it may be said of the first that it contains a thoughtful, cautious, and liberty-loving people, one slow to act, and not inclined to be aggressive, though living under what is virtually a despotic form of government. But from Germany emigration is large, exceeding in some years a quarter of a million of people, of whom the majority find their way to American shores. No wonder that this is the case in a country where nearly one half the population live on an income of little more than $100 a year.

Still worse is the condition of the Italian peasantry, among whom the consumption of grain is but 10 bushels a year, and of meat only 21 pounds per capita, against 40 of grain and 120 of meat for the United States. Of their scanty earnings nearly one third are absorbed in taxes, and in default of payment more than 60,000 small farmers were recently evicted. Nevertheless, the public debt is rapidly accumulating, more than $200,000,000 being added for the decade ending with 1880. With Italian pedlers, laborers, fishermen, and market-gardeners, our cities and their suburbs are overrun, and, except the Chinese, there is no class of immigrants that has done so much to reduce the rates of wages.

In Ireland, where most of the land is owned by English landlords, whose only interest in their tenants is the collection of their rents, one third of the population are often in actual want. Those who have the means remove to America, and those who have not are often helped to do so by the British government, as it is cheaper to pay their passage than to support them as paupers or criminals. In 1890, for instance, when at least 300,000 people were rendered destitute by the failure of the potato crop, $1,000,000 was voted by parliament for this purpose, and for the relief and migration of starving cottiers, several millions were sent from the United States. But years of calamity have drained the west coast of Ireland of the young and able-bodied, leaving its cabins filled with the aged and infirm, for whom an asylum is sought amid our own long-suffering community.

Here are some of the dangers which threaten the American republic, and which, sooner or later, will have to be confronted. We have too long been in the habit of regarding ourselves as a chosen people, one whose welfare and prosperity the almighty held in his special keeping; but the perils which beset us are none the less serious and imminent. In Europe distrust and discontent are general and deep-seated, and we know not how soon may occur such a cataclysm of war as may eclipse even the Napoleonic era. Several expellent forces are there at work, all contributing to swell the ever-increasing tide of emigration. Chief among them are the growing impatience of monarchy, the longing for a republican form of government, overpopulation, excessive taxation, and the burden of military service. Between 1870 and 1880 the increase of taxation in Europe was nearly 30 per cent, and in Germany as much as 58 per cent, and yet there was a steady increase in the public debt, which has almost doubled itself within the last fifteen years. By the four great military powers the best years of a man's life, years when he should be gaining a foothold in his business or profession, are demanded for military service, while in case of war he may at any time be called upon to serve as a target for the enemy's bullets—and that for a cause with which he has not a particle of sympathy. No wonder Europe sends us her hundreds of thousands a year! The marvel is that emigration is not even on a larger scale; for if two millions were to leave her shores each twelvemonth, the exodus would be more than replaced by the natural increase of population.

Still another influence at work is the cheapness and facility of travel. In former times, the emigrant was compelled to undertake a tedious and expensive voyage; but with steam navigation the time has been reduced from months to days, and the cost to a fraction of its former amount. Europe is now threaded with railroads, bringing interior points into direct communication with the sea-coast, while throughout the remotest districts the agents of rival transportation companies distribute their pamphlets, giving the most glowing description of fertile lands to be had for the asking, and riches to be gathered almost without an effort. To land emigrants in Castle Garden, contracts are now taken at $11 to $12 a head, and to make such a business profitable it is apparent that it must be conducted on an enormous scale.

Indirectly the very ingenuity of the Americans is of itself a cause of immigration. In all European countries their labor-saving machines have been largely introduced, and each one, by depriving the laborer of the means of support, tends to increase the exodus. In old-world countries the operative cannot adjust himself to the new order of things, as does the American. He knows but a single trade, or more probably a single branch of a trade, and if that be taken from him he is left entirely without resource.

He must either starve or emigrate, and thus more competition is added to the over-crowded labor markets of the Atlantic states.

It will be accepted almost as an axiom that when the population of a country has reached the point where it is sufficient for all requirements, the maximum of strength has been attained, and that any surplus becomes a dead weight. It will also be admitted that when population becomes so dense that life is one long struggle for a bare existence, emigration from that country is a source of strength. In some of the Atlantic states the former condition, and in many of the old-world countries the latter, has already been reached. It is only in the western and Pacific states that there is room for any large influx of laborers and settlers.

It is not from the volume, but from the character, of its immigration that danger threatens our Pacific slope. Of pauper immigration I have already spoken; but still worse is that of the most hardened of Europe's criminals. Early in 1890 the following paragraph went the rounds of the California press: "The commercial agent at New Caledonia, South Pacific ocean, has reported to the department of state that the convicts in that colony are being liberated with the understanding that they must not settle in any English or French colony, and as a consequence the majority are going to San Francisco. He says a proposition is now before the local parliament to vote one thousand pounds for the landing in San Francisco of all the worst of these men, as they will not be received in Tahiti or elsewhere. The French government, he also says, are offering a subsidy for a steamer to run between Neoule and Tahiti, and thence to San Francisco, for the purpose of assisting emigrants to America." The influence of such an element should not be overlooked; for as with the individual, so with the community—it cannot touch pitch without being defiled.

Still worse in this regard are the Atlantic states, with their nearer proximity to Europe. It is stated on one authority that more than 70 per cent of the discharged Irish convicts find their way to America. Of the population of New England only one fourth is of foreign extraction, and yet by that element are furnished three fourths of all its criminals. Of 700 discharged convicts applying for assistance to the New York prison association, more than 500 were of foreign parentage. Of over 6,000 persons committed to the Rhode Island workhouse and house of correction in 1882, 75 per cent were of foreign extraction. But that foreigners or persons of foreign birth are those who fill our prisons and alms-houses, a few visits to these institutions will convince the most sceptical. Nor could it well be otherwise, considering that it has so long been the policy of European governments to send us their paupers and criminals, and the policy of our own government to admit them.

Then as to the question of illiteracy; we find that the percentage of foreigners who cannot read and write is nearly forty per cent larger than that of native-born Americans. Moreover, to educate the children of the former is a far more difficult task, raised, as they are, with the prejudices of their former environment, and resisting all attempts to amend their social condition. In the states where foreigners most do congregate, and especially in California, there is more than one *imperium in imperio;* in each a lesser Ireland, a lesser Italy, or a lesser Germany, none of them in sympathy with American institutions. In Wisconsin there is a community of some 1,200 or 1,500 Swiss, preserving intact their language, religion, customs, and resenting the intrusion of Americans and all Americanizing influences. In Cincinnati there are certain quarters where none but Dutchmen are found, and among them not a few who cannot speak a word of English. By this clannishness our politics are affected, and nowhere more so than in California, where is found the Irish vote, the German vote, and the Italian vote, all of them to be considered in the conduct of a political campaign, though no one thinks it worth his while to conciliate the American voter. One of the greatest safeguards a republic can have is in the homogeneity of its population, and it is essential to its well-being that on some vital questions there should be uniformity of opinion.

And now a word as to the labor question, which is more or less intimately connected with that of immigration.

While there is no country in the world that offers so many inducements to immigrants as can be found in these mountain states, so there is none in which good reliable labor at moderate rates is more in demand. And especially is this the case with our manufactures, in which the want of such labor is a serious drawback. On the Pacific coast the wages of white factory operatives are from 20 to 40 per cent higher than in the eastern states, at least 50 per cent higher than in England, and from two to three times the rates prevailing in France and Germany. Even at these rates the supply of labor is scanty, and its character far from reliable, so that, in the opinion of those best informed on the subject, under present conditions there is little hope of any great development in such manufactures as employ white labor exclusively.

Over and over again attempts have been made to substitute the labor of white boys and girls for that of Chinamen; but in almost every instance they have proved a failure. In one of the largest woollen mills on the coast where a number of boys were given a fair trial, it was soon found necessary to discharge them, because, as the manager remarked, "they would not do fair work unless there was a foreman over each of them." If by chance a few could be got to work, they would demand a man's wages as soon as they had learned the most simple process. If a boy be wanted to ride after cattle, or to drive a wagon, especially a corner-grocery wagon, hundreds can be had at a moment's bidding, but to the steady, continuous labor of farm or factory they will not submit. Thus does hoodlumism, as is termed the collective ruffianism of young California, lay the blame of its own idleness and vice on the greed of capitalists and the competition of Chinamen.

But there are other causes at work, and chief among them is the effect of intemperance and strikes. Says William M. Evarts, in his introduction to *The State of Labor in Europe:* "More misery is caused by strong drink than by dull times, and more misery is caused by strikes than even by strong drink." And that which is true of European countries is true also of our eastern and mountain states. If there is any part of the world where there is no excuse for strikes, it is surely here, where labor is more highly paid than in any country on earth, and where, with the savings of each day's labor, the workman may purchase an acre of government land. "Compared with Europe," wrote the American consul at Bristol, England, "the United States are a paradise for a sober and faithful working-man." And the superiority which the Atlantic states possess when compared with Europe, the Pacific slope enjoys when compared with the Atlantic states; for just as wages are higher, and food is cheaper in New York and Chicago than in London and Paris, so have San Francisco and Denver the same advantages over New York and Chicago. Thus we may hope to attract in the future a class of labor which in skill and character will compare with any in the world.

But it is not merely on rates of wages and prices of food that the welfare and happiness of the working classes depend. Many of the most contented communities are those where wages are lowest, and many of the most discontented are those where wages are highest. In France, for instance, where the average earnings of the laborer are from 60 to 70 cents a day, it is probable that he has more real enjoyment and at the end of the year has saved more than the Colorado laborer, whose earnings are thrice as much. The amount that a man earns is of less importance than the use he makes of it, and where we find one case of distress arising from misfortune, there are a hundred caused by improvidence.

As to the labor of female operatives, while there are doubtless many individual instances of hardship, their condition as a class is far better than in the eastern states, and infinitely better than in European countries. For work of whatever kind done by the needle or sewing-machine, wages in San Francisco are higher in almost every instance than in Chicago or New York. For skilled female operatives employed in the manufacture of textile fabrics, the average is at least $9 per week, against $7 to $8 in eastern cities and $3 to $4 in England. But even at these rates the supply of good work-women is in some departments entirely inadequate. In connection with this subject it was remarked by the owner of a clothing factory in which girls are largely employed: "The outlook for the future is good. All that we need is white labor, good and experienced hands, which are not in San Francisco at present, and will not be, until mothers and daughters lay aside their pride, and are willing to work, and not ashamed to be called factory hands." And thus another manufacturer: "Skilled work-women are very scarce. It appears that women coming here believe they must marry a rich man, and consequently do not wish to work in a factory; the rising generation believe so too; and I think it will take a few years more at least, until there are several thousand more idle girls in San Francisco, and the market for marriageable girls is overstocked, before girls of proper age come to their proper senses, and assist their parents and themselves by honest work in a factory."

And so it is with our boys, not only in factory employment, but in everything else where steady and protracted toil is required. Among our mechanics, for instance, not one in ten is a son of the soil or came here in boyhood. Too often reared under the most pernicious influences, without restraint or discipline, their sole ambition appears to be how to earn a living without work, or at least without hard work. Instances are rare indeed where western youths have been known to serve out a term of apprenticeship—so rare that employers seldom care to engage their services. Nor are they wanted even as clerks; young men from the east or from Europe receiving the preference as more reliable, and less inclined to vicious habits.

To hard work, or indeed to work of any kind, unless the task be agreeable and highly paid, young California has a strong and rooted antipathy. But the work must be done, and it only remains to employ the services of foreigners, however objectionable may be certain classes of our alien population. In Europe, manufacturers depend mainly on the services of boys and girls for unskilled labor, and not only do apprentices work for years without remuneration, when learning a trade, but their parents often pay a premium for what is there esteemed as a privilege. On the Pacific coast, young men consider such occupation beneath their dignity, though it is not beneath their dignity to become a burden on their friends, and a nuisance to the community.

The fact that there are so many idlers in our midst is by no means due, as has been so often alleged, to the competition of the Chinaman. It is not with our own white labor, but with eastern labor, that the Chinaman actually competes, and then only when his cheaper services are indispensable to the operations of a profitable business. In our foundries and machine-shops, our saw-mills and planing-mills, and in other branches where there is little competition with the east, there will be found only white mechanics, and those receiving higher wages than are paid elsewhere in the world. It is only in such factories as must compete with those of the Atlantic states and Europe, and compete under such conditions as leave but the narrowest margin of profit, that any large number of Chinamen are employed.

It is agreed by all that eastern and European labor is more desirable than that which comes from China, and that the permanent location on these shores of additional hordes of Mongolians would be a most serious misfortune. But it may safely be affirmed that here will never be seen any large hereditary caste of Asiatic blood, and that Chinese competition will never be felt so severely in the future as it has been in the past.

In speaking of this question a well-known writer remarks: "Some of the anti-Chinese agitators have used language which would lead people at a distance to infer that the general condition of poor white men in California is pitiable, because the bread is taken from their mouths by the Chinese; that there is little chance here for a poor man to support a family respectably; that it is cruel to invite immigrants to come to California and engage in a competition with the yellow pagan that must end in misery and starvation; that greedy capitalists and slavish Asiatics have taken exclusive possession of most branches of productive industry; and that the evil is so great that the immediate expulsion of the pagans, even if accomplished by bloodshed and anarchy, would be a blessing to the country.

"These ideas, in their main features, are wrong. Much may be said truthfully against the Chinese, and all that is true, together with much more that is untrue, has been said and widely circulated by politicians; but there is another side, which has received far less attention, and should not be overlooked by those who wish to understand the industrial interests involved. There is to-day no better place for the white immigrant on the entire globe than he can find on the west coast; no place where labor is so well paid or more honored; no place where the industrious laborers, as a class, live with so much comfort; no place where the poor man can settle with more reasonable confidence in the present and the future.

"The high price of labor has been one of the chief causes of the rapid growth of our country and of our coast. If the laborers could not have earned more on the Atlantic slope than in Europe, they would not have incurred the expense of leaving the old world; if they had not known that wages were higher on this coast than in the Mississippi valley, they would not have crossed the continent. In all new countries the majority of the settlers are poor, dependent for support on their toil. They prefer, other things being equal, to go to the land where they can sell their labor for the best price. Our country has made higher bids than any other, industrially as well as politically, for poor men, and has attracted more of them. The immigration to the United States is a prominent fact in the civilization of the nineteenth century, and its fluctuating activity has been one of the best standards by which to measure our national prosperity. If wages in America should fall to a level with those of Europe, the large migration from that continent to ours would cease, and the flow of population from the Atlantic slope to our coast will become relatively insignificant when wages reach the same rate here as there.

"The poor, blinded by ignorance and prejudice, may imagine that employers have combined to reduce wages to the lowest limit at which workmen can live; but if they were well informed, they would understand that capitalists, instead of working together, are really struggling each against all the others. The business of a factory is a competition with all similar establishments in the country. The prices of the products and of the labor cannot be controlled by any man or small clique of men. It is the interest of every employer to get the best workmen and to attract them by paying all he can afford. He does not care how much his workmen make, provided that he derives the largest possible profit and satisfaction from his capital.

"Political agitators assert that labor has been degraded in California by low wages; but since toil is necessary for individual happiness as well as for national prosperity, it must in its very nature be honorable. Like wisdom and honesty, it is not susceptible of degradation. The men who ought to devote themselves to it, however, may be, and often are, demoralized and degraded, especially when they seek excuses for idleness and mendicancy; when they demand higher wages than employers can afford to give; when they spend more than they earn, and when they train up their children without skill in any useful art, and with the foolish notion that it is better to idle, beg, or steal than to work for the highest wages offered in the market."

That which has been said of our factories applies with equal force to our farms, where the laborer who is industrious and economical may soon become himself a land-owner and an employer of labor. Nevertheless, there is a certain class among our immigrants who declare that they have been misled, that they came here expecting to make money with little exertion, and to find the conditions of life much easier than in the eastern states, whereas they met with keener competition than they had ever experienced before. Doubtless, for men without energy, skill, or ambition, a new country presents few openings; but such men are not wanted anywhere, and it only remains for them to stay where they are and make the best of their environment. But for those possessed of ability and enterprise, there is and there will be in Colorado for scores of years to come, a better opportunity to acquire an independence than can be found in any part of the world. In every state and territory there are still vast areas of public land on which a quarter or half section will yield a comfortable livelihood, and is sure to increase very largely in value.

As to the cry of land monopoly, so long a favorite theme with California demagogues, it may be said with truth that no such barrier obstructs the path of the immigrant. At least two thirds of all the lands in California are still in the hands of the government, and the settler can take his choice among millions of acres suitable for cultivation, at a merely nominal cost. So long as he can obtain almost for nothing a larger tract than he can cultivate, there is surely no good reason to complain of monopoly. True, the best lands have been already taken up, the most fertile portions of the valleys, those which are nearest to cities, harbors, and navigable rivers, most suitable for wheat farms, orchards, and vineyards; but this is also the case in every state and territory throughout the union. The newcomer cannot expect to make his selection as did the pioneer; but he has many advantages which the pioneer had not, and as much revenue can now be obtained from the public land still open to settlement as from an equal area thirty or forty years ago. As to the areas granted to railroads, such grants have given access to regions of wide extent in every section of this coast that would otherwise have remained inaccessible for half a century to come. But for railroads we should never have had in California, for instance, some 50,000 farms, and those on an average four times as large as in the states lying east of the Mississippi.

Of all the railroad land grants, one of the most valuable is that of the Northern Pacific, lying, as it does, mainly between the forty-seventh and forty-eighth parallels of latitude, and giving access to an area of more than 100,000 square miles, which would else have remained a wilderness. With a more certain and abundant rainfall, and with a lower elevation than the lands of the Central Pacific, its grant of 25,600 acres for every mile of road will supply homes for many thousands of families, and through its productiveness furnish a local traffic that will in time develop into a profitable business.

But on the line of the Southern Pacific in southern California is a still more valuable, though smaller, area of railroad land, including districts adapted to the raising of grain, citrus fruits, and grapes, and much of it irrigated by canals, artesian wells, and perennial streams. As residence sites, and for the growth of subtropical fruits, there is no more attractive spot for the richer class of immigrants.

In this region, though not on railroad lands, have been established some of the most successful of the many colonies in California, Oregon, Washington, and Colorado, where capital and labor have been combined, especially for horticultural tillage, and in districts where there were special facilities for irrigation. The first one was at Anaheim, in Los Angeles county, where in 1857 a party of Germans purchased for two dollars an acre a considerable tract to the southeast of Los Angeles city. After being cleared, irrigated, planted with vines, and divided into vineyard tracts, with a town site in the midst, the property was distributed among the stockholders, and soon the Anaheim settlement became one of the most prominent wine-producing sections of California.

No less successful was the colony of Riverside, established in 1870, on an elevated plain 600 feet above the sea level, with a plentiful supply of water and a soil and climate well suited to the cultivation of the orange and grape. Among the settlers were many persons of wealth and culture from the eastern states, who gave to it an intellectual and social atmosphere that is seldom found in agricultural villages. It is related that for an orangery only 10 acres in extent an offer of $10,000 was refused in 1880, for the crop was then yielding a profit of $600 per acre.

At Pasadena and Westminster, both in Los Angeles county, flourishing colonies have been planted. In the Pajaro valley a tract was laid off in homestead allotments, in the centre of which was the town of Hollister, and largely on account of the success of this enterprise was organized, a few years later, the county of San Benito, with Hollister as its seat. In Fresno county, seven horticultural colonies had been established up to 1881, with an aggregate of more than 21,000 acres, and to all of them water was supplied by irrigation, the tracts being from 20 to 50 acres, and each one capable of supporting a family in comfort.

In Colorado also, and in other of the mountain states and territories, colonies have been established, all of which, when under proper management, have proved successful. Take, for instance, the Union colony, in Colorado, organized in New York in December 1869, with Horace Greeley as treasurer, and N. C. Meeker, of the *Tribune*, as one of its agents. After inspecting various localities, the committee sent out for that purpose selected the site of the present town of Greeley, purchasing at first some 12,000 acres, mainly of Denver Pacific railroad lands. Arrangements were afterward made for 50,000 additional acres of railway and 60,000 of government land, at from $3 to $4 an acre. Charters were secured for irrigating canals; a town laid off and subdivided into business and residence lots, and the adjacent lands apportioned among the members. A plaza of ten acres was reserved in the centre of the town, trees were planted, artificial lakes constructed, and by June of 1870 water was flowing through the principal streets. A year later the colony included 350 buildings, with 17 stores and several manufacturing establishments.

If all our public domain and railroad domains had passed into the hands of colonies or individual settlers, then would have been avoided one of the great dangers that now beset the commonwealth. Said Macaulay in 1857, when writing to an American friend: "As long as you have a boundless extent of fertile and unoccupied land, your laboring population will be far more at ease than the laboring population of the old world. But the time will come when New England will be as thickly peopled as Old England. Wages will be as low and will fluctuate as much with you as with us. You will have your Manchesters and Birminghams; and in those Manchesters and Birminghams hundreds of thousands of artisans will be fairly brought to the test. Through such seasons the United States will have to pass in the course of the next century, if not of this. I wish you a good deliverance; but my reason and my wishes are at war, and I cannot help foreboding the worst."

Already the warning is being fulfilled. Already we have our Manchesters and Birminghams, and in our midst strikes and lock-outs are constantly being set on foot by foreign artisans, incited, as they are, by the prejudices born of oppression. Meanwhile, with unrestricted immigration, wages are being reduced, and the public domain is slipping away from us like the sands in an hour-glass.

In 1890 the entire amount of government lands still open for settlement was estimated at about 600,000,000 acres; but in this there are vast areas of mountainous and barren land, the extent of which cannot be exactly ascertained. The demand for land is at the rate of some 25,000,000 acres a year, and is constantly increasing, but even should the present rate be maintained, the supply will be exhausted within less than a quarter of a century. On the Pacific coast it will doubtless last for a longer period; but in most of the western states there are, as we have seen, to-day no very extensive tracts available for preëmption. Although it is clearly the intention that not more than 160 acres of government land should fall into the hands of any one individual, no attempt has been made to check the wholesale robbery of the national domain. Even by preëmptors their title has in many cases been fraudulently acquired. To show permanent settlement, it is necessary only to swear that a house at least twelve by fourteen has been built on their claim; but often this house has been mounted on wheels and made to do service for many quarter-sections. Instances are not rare where only a toy house has been built, twelve by fourteen inches, the object being merely to obtain a patent and sell the land at a profit. Many of the large tracts belonging to corporations and individuals have, moreover, been acquired by locating persons on government land, advancing the necessary funds, and paying them for their time and trouble, on condition that they afterward sign a deed in favor of the parties concerned.

Perhaps the worst feature in the case is that our largest landlords are for the most part foreigners. It was recently stated in congress, by the author of a bill prohibiting aliens from holding real estate, that more than 20,000,000 acres were owned by non-resident foreigners, who also held mortgages on no less than 100,000,000 acres. In the state of Illinois some 90,000 acres were the property of a certain Englishman, who drew from his estates an income of $200,000 a year. If there is any truth in the aphorism that "America should belong to the Americans," then for every acre of land that passes into the hands of foreigners, the republic suffers an injury, not so much for the land itself, as for the fact that it tends to introduce among us an element opposed to republicanism.

In this connection it has been well remarked: "The millions of acres which have been acquired and are now owned by subjects of foreign governments, and which under existing laws may be transmitted intact from generation to generation, thus enabling foreigners to build up and maintain immense landed estates in this country, are the rightful heritage of American-born citizens." As remedies, it is suggested that the land laws be so amended that none but native-born citizens can enter or purchase public land from the state or national government; that the ownership of land by resident aliens be limited in area, and that non-resident aliens be prohibited from bequeathing real estate. It is not reasonable to suppose that, as a rule, the sympathies of foreign and non-resident landlords can have much in common with American institutions, or indeed that their sympathies extend at all beyond the collection of their rents. Nor is it to be expected that a nation which found one king too many for it, will long endure the yoke of a number of kings, in the shape of foreign land monopolists, who in time might reduce these free United States almost to the condition of Ireland, than whose people there is, perhaps, none in the world more dissatisfied or more disloyal to their government.

In conclusion, a few words may be made as to climate, vegetation, and the proposed line of route for a Cosmopolitan Railway, all of which are more or less connected with the question of immigration.

Climate, indeed, largely controls the migrations of the human race, which have steadily adhered to an isothermal zodiac, or belt of equal warmth, around the world. The extremely mild temperature of our western seaboard is the consequence of the same great laws of nature which operate in western Europe. These are the regular and fixed ordinances of the code of nature, to which the migrations of man, in common with the animals, yield an instinctive obedience.

Within the torrid zone of the northern hemisphere, and a few degrees beyond, say from the equator to the 28th degree of north latitude, blow the trade winds and variables, the former always between the east and northeast; but in the succeeding belt, from 28° to 60°, the prevailing winds have an opposite direction. These latter wind currents reach the western coasts of America and Europe after traversing the expanse of the Pacific and Atlantic oceans. Warmed to the temperature of these oceans, they impart a mild atmosphere to the maritime fronts of the continents which receive them; but chilled by their onward passage over regions of low temperature, covered with snow or frozen during winter, have, upon the eastern expansions of these continents, an exactly opposite effect.

Hence the difference of temperature between New York and Lisbon, which face one another on opposite sides of the Atlantic, between San Francisco and Pekin, similarly opposite upon the Pacific. At San Francisco and at Lisbon the seasons are but modulations of one continuous summer. At New York and at Pekin, winter annually suspends vegetation during seven months, whilst ice and snow bind up the land and waters. These four cities are all close upon the same parallel of latitude, the fortieth degree north.

Thus is it manifest why in Asia the mass of population is congregated on and south of the fortieth degree, and in Europe north of it. In America it again curves to the south on the eastern face of our continent, to rise northward again on the warm Pacific coast. Within this undulating belt of the north temperate zone, in breadth about thirty-three degrees, are contained more than three fourths of the world's population.

Here has been the progressive march of the human race round the world, commencing in the farthest orient, and forming a zodiac of nations toward the setting sun. In this have been retained similar tastes, similar industrial pursuits, similar food and clothing, requiring similarity of climate, and recoiling alike from the torrid and from the arctic zones.

If, then, we bear in mind the simple fact that nearly all our present territory lies within this zone, where the prevailing winds are from the west, we arrive at the solution, as well of the different modifications of climate along the same parallel of latitude, as of the variety in the vegetable covering of the surface; why the eastern portion is clothed with dense forests, the central portion with prairie grasses only, and the great plateaus of the table-lands are naked of all arborescence.

The amount of rains falling upon the face of the land regulates this. The oceans are the reservoirs which supply clouds to the atmosphere. The vapors, rising from the whole surface of the ocean into the higher regions of the atmosphere, form themselves, at a high elevation, into natural balloons or clouds. These, carried by currents of air over the land, and rising still higher, become condensed and distil themselves upon the earth in the form of rain. Those holding vapor in the form least concentrated discharge in the regions near the sea. Others attain to a high degree of concentration, retaining the form of clouds until they reach the central regions of the continents and a great elevation.

But we have seen that, under various names, the great snowy cordillera of the Andes lines the whole western seaboard of North America, being in sight of vessels sailing up the sea, from the gulf of California to Bering strait. The winds coming from the west and over the ocean blow against this wall. On this elevated summit of perpetual congelation, water becomes ice, as solid and permanent as the cold lava rock. The irrigating influence of the Pacific ocean is here abruptly stopped and entirely ceases. The great eastern slope of our continent, however, descending by gentle inclined planes to the seas, receives, without any geographical interruption, the irrigating winds and clouds of those seas. The barrier of the Alleghanies diminishes, but does not stop, the inflowing of vapors.

The vegetation of the continent reveals to us the result of the direction of the winds and the currents of atmospheric vapor with an exactness as complete as that with which the thermometer indicates temperature.

The maritime declivity, the Alleghanies, and the countries between the latter and the troughs of the Mississippi and St Lawrence, are densely clad with timber. So are the states of Louisiana, Arkansas, and south Missouri; receiving clouds from the gulf partly, and partly from the Atlantic. Westward and northward the timber gradually tapers away; still following in narrow lines along the rivers, but leaving the uplands and ridges to the luxuriant prairie grasses. Soon, however, the timber abandons its struggle to grow, and ceases entirely.

Onward from the last fringe of timber, for some hundred miles, the irrigation continues to preserve the mellowness of the soil, and a sward of tall, luxuriant grasses covers the whole smooth expanse of nature. This, in turn, gradually dwarfs under the decreasing irrigation, tapering into the delicate curled grass of the buffalo plains, which is scarce half an inch in height, and resembles the wool of a lamb.

Finally, grass itself fails, and the general characteristic of the surface of the great Sierra Madre and the plateau of the table-lands is total nakedness of any nutritious vegetable covering. The soil is either compactly hard, or resembles dry ashes. The surface is here sparsely clothed with dwarfed wormwood and the prickly pear,—funereal plants, which seem as indifferent to moisture as is the salamander to fire.

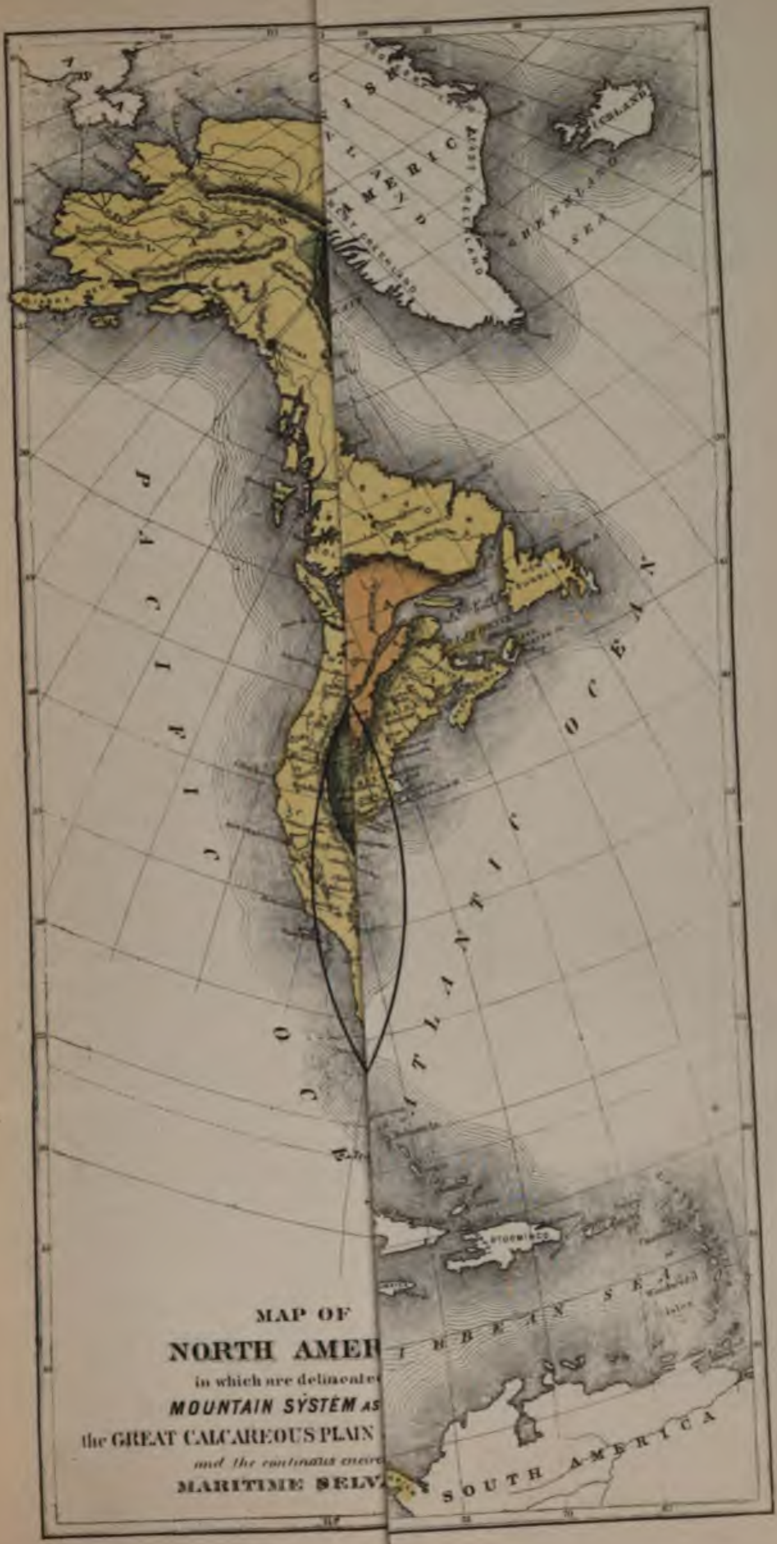
The great basins of the interior are everywhere calcareous. The soil which covers the two great cordilleras, the table-lands, and the Pacific declivity is formed by the decay of intrinsically fertile basaltic and lava formations. Thirst alone causes its nakedness, and where this thirst is quenched by an artificial supply of water, it shows an abundant and inexhaustible fertility.

Thus are all the successive varieties of climate, vegetation, and soil explained by the gradual attenuation of the rains as we recede from the ocean. All secondary phenomena, such as the annual fires of the great prairies of long grass, are consequences of the aridity of the autumnal atmosphere, and not causes of the absence of timber.

Again, the elevation of the plain of the South pass is 7,800 feet above the sea. The streams which collect and carry off its waters—the Sweetwater to the east and the Sandy to the west—are only large rivulets, though their courses are long. The amount of rain in summer and snow in winter upon the water-grade of the Platte and Snake rivers, and in the South pass between them, is so insignificant as to bear no comparison in amount with those of more favored regions.

But the stupendous masses of the Wind River mountains rise in the northern horizon of the South pass to an altitude of 14,000 feet. Their great elevation draws down the vapors left in the atmosphere, which clothe their summits with perpetual and their flanks with winter snows. These supply waters to the great rivers, and cover the flanks and gorges of the great mountains with immense forests. The same is the case elsewhere with the great primary mountain chains, such as the Utah or Wasatch and the Salmon River mountains. But the secondary mountains and passes are entirely naked of timber, having upon them neither rains nor snows at any season.

But an extraordinary fact here develops itself. If from the point where the junction of several small streams forms the Kansas river, 120 miles due west from the Missouri as a centre, a circle be described touching the boundary line of 49° as a tangent, the opposite circumference of the circle will pass through the seaport of Matagorda, in Texas, through New Orleans and Mobile. This point is, therefore, the centre between the northern and southern boundaries of our country. If from the same centre a larger circle be described, it will pass through San Francisco, and through Van-


MAP OF
NORTH AMER
in which are delineate
MOUNTAIN SYSTEM AS
the GREAT CALCAREOUS PLAIN
and the continuous encir
MARITIME SELV
ICELAND
GREENLAND SEA
EAST GREENLAND
WEST GREENLAND
P A C I F I C   O C E A N
A T L A N T I C   O C E A N
ST DOMINGO
SEA
SOUTH AMERICA

couver City, on the Columbia, grazing almost the entire coast between them. The same circle will pass through Quebec and Boston on the Atlantic, through Havana on the gulf, and through the city of Mexico. The same point is then the centre between the oceans.

Thus at the forks of the Kansas river a point exists, in latitude 38° 45′, and longitude 97° west of Greenwich, which is the geographical centre—north and south, east and west—not only of the Mississippi basin, but of our entire national domain.

The facts which concentrate themselves to favor the location of the Cosmopolitan Railway at the line of water-grades from ocean to ocean sum themselves up conclusively in its favor and against all others.

From Baltimore and New York, through St Louis to Kansas, the route traverses a country filled with rivers, interrupted by the narrow and abrupt ribs of the Alleghany chain, covered with timber, having a fitful climate vexed with immense rains and snows, the surface infinitely channelled with watercourses and ravines, alternating with steep and narrow hills. Yet this portion of the road progresses over all these difficulties with such ease and celerity, that argument of its impracticability is not to be entertained.

From Kansas to Astoria the line crosses no river of any magnitude, yet follows the banks of great rivers continuously the whole distance. The banks of these rivers, rising but a few feet above the water surface, are of immense width, perfectly hard and dry and smooth. Such is the general characteristic of the Platte and Columbia from end to end.

The plain of the South pass is almost as smooth and hard as a marble pavement, and is of a general breadth exceeding thirty miles. Not a single eminence exists in the whole distance but is tunnelled by these rivers down to the general grade. On the track everywhere is material in every variety of form and in the greatest abundance. Lumber is found in the high mountains to the right and left. Iron can be conveyed on navigable rivers. Mineral coal is abundant, and rock in every variety—granite, basalt, lava, limestone, and gypsum. The Platte perforates a great range of mountains of gypsum; the Snake river a smaller one of rock salt.

This route is not northern, but central, extending eastward almost in a straight line from the central point on the Kansas river to Baltimore, the most southern Atlantic city of great commercial importance, and toward the west curving gently upward to the mouth of the Columbia, in latitude 46° 19′, three degrees south of Havre in France, and eight degrees south of Liverpool and Amsterdam. It is upon the coast extending a few degrees north of the Columbia that the marine of the Pacific will be constructed, as here are combined the conveniences of sea-harbors and forests.

The eastern half of this transcontinental route traverses very centrally the line of densest population, of the largest production and consumption, and consequently of greatest travel and commerce. Among other undeveloped resources, we find in the western half, in the region embracing the sources of the Sweetwater, Colorado, and Snake rivers, a gold country equalling California or Brazil, but inaccessible to ocean navigation.

One natural production of the eastern edge of the table-lands will soon repay the cost of the construction of this road, and that is salt. There are mountains near the sources of Snake river composed of stratified masses of rock salt—just as other river bluffs are of limestone. This, quarried with light tools, and ground to powder as grain is reduced to flour, is the pure alum salt of commerce. Every living soul in America uses salt thrice per day. Every animal requires it as frequently. Every ounce of provisions is preserved with it. It is used in the manufactures and fine arts, in the preservation of timber, and for countless other purposes. At small expense it could be brought down to the focal point of navigation in Missouri, and thus Colorado would become the distributing point for this most valuable and indispensable article of commerce.

Finally, it is important that the people receive with candor and allow due weight to the overwhelming arguments in favor of this route of the water grades, which nature, all recorded human experience, and the science of civil engineering combine to submit to their judgment.

If this route deflects at all from an exact centrality, it is to the south, and not toward the north. Its two halves, diverging from the centre, give the shortest line to the sea, through the countries and populations where the work to be done is the greatest, and the necessity for it most immediate, pressing, and enduring. As a through road it is the shortest line across North America, most conveniently connecting Asia and Europe by the perpetual line of way travel. Though meandering among immense mountain chains, it passes them all by tunnels completely made by nature.

Neither snow nor rain, nor great rivers would embarrass its construction or its after use; the climate is propitious; material to construct is conveniently at hand, at easy intervals, on the right and left; fuel and water abundant. Combined with its dry and health-giving atmosphere, the pastoral excellence of the whole region, supplying meat food and means of transportation indefinitely, will render easy the immediate influx and permanent residence of an immense population.

CHAPTER XI

THE NEW CIVILIZATION

If we could return to the year 1807, and, standing on the banks of the Hudson, watch Fulton's clumsy little steamer, the *Claremont*, making her first voyage up to Albany; if we could view George Stephenson's locomotive make its first trip from Stockton to Darlington; could hear the brave little band under Lieutenant Pike, as they viewed the peak that bears his name, give "three cheers for the Mexican mountains," or could even listen to the magical words that fell from the lips of orators upon the laying of the Atlantic telegraph, we might better apprehend and appreciate the progress that civilization has made during our century. But when we remember that this great era of change has been wrought mainly through a better understanding of two agencies, steam and electricity, and, in addition thereto, the discoveries of mines in the United States containing vast and apparently inexhaustible treasures of gold, silver, copper, iron, and coal, extending from the eastern boundaries of the continental divide in the centre of Colorado to where the shores of California are washed by the Pacific, we can but feel that the present age is different from all others; that it has been truly a cycle of wondrous achievements.

Speaking of the part the iron horse has played in the evolution of modern society, the younger Charles Francis Adams says: "Here is an enormous, an incalculable, force practically let loose suddenly upon mankind, exercising all sorts of influences, social, moral, and political; precipitating upon us novel problems which demand immediate solution; banishing the old before the new is half matured to replace it; bringing the nations into close contact before yet the antipathies of race have begun to be eradicated; giving us a history full of changing fortunes and rich in dramatic episodes, ... and perhaps with two exceptions is the most tremendous and far-reaching engine of social change which have ever either blessed or cursed mankind."

No less wonderful has been the effect of the telegraph. The steam-engine and the electro-magnet have been twin brothers during this era of change. In about half a century the little telegraph line which first transmitted messages from Baltimore to Washington has been multiplied to such an extent that the Western Union telegraph alone has to-day six hundred thousand miles of wire. But all these grand successes, these immense distances annihilated, these great cities thronged with an energetic population, and springing up almost in a night, are but a few of the fruits which have come from the inventive genius, the indomitable energy, and the persevering labor of the past hundred years.

If steam and electricity take the first rank as powerful forces in the advance and development of our time, the labors and discoveries of the miner and metallurgist have their place full high advanced in the second rank in the army of industrial progress. As Birmingham and Sheffield have been for many decades the centres of the manufacture of hardware and cutlery in Europe, so Denver is destined to become the great centre of silver and iron manufactures in the United States. We might even go further, and predict that the centre of civilization will gradually be shifted from London and Paris to the Pacific and western states, and that San Francisco and Denver are destined to become two of the leading cities of the twentieth century. But the general thought of the American people is but a reëcho of Channing's "One Europe is enough. One Paris is enough.

Earnestly do I desire for this country that, instead of copying Europe with an undiscerning servility, it may have a character of its own, corresponding to the freedom and equality of our institutions."

Great as is the wealth of Colorado in the precious metals, so called, it is destined to be dwarfed by those minerals, coal and iron, which are so much more valuable than gold and silver. These are the factors of the greatest manufacturing progress and prosperity the world has ever seen, and most potent agents in the work of modern civilization. In most instances, these two minerals are found in widely separated localities, so that the cost of bringing them together for efficient use is usually attended with great labor and expense. Where they are found together, nature affords to the manufacturer advantages well-nigh incalculable. This happy conjunction is what has made Pennsylvania in the past the centre of the iron industry in America. But however great and magnificent the resources and prospects of the Keystone state in these respects, it is the statement of a fact which is every day receiving ample confirmation that Colorado will in the immediate future far surpass her elder sister in the amount and excellence of her raw materials and the manufactured products of coal and iron.

Added to these elements of wealth, which strike the imagination with the greatest force, are the no less extraordinary excellence of soil and climate, which mark the Centennial state as the favorite child of nature. Within her borders are embraced the three great topographical varieties, vast mountain ranges, fertile valleys, and wide table-lands. Her parks are without rivals anywhere, for extent, for climatic charm, and for scenic beauty. As a state, geographically she occupies the centre, and forms the apex of the North American continent. And as the course of empire is still westward, Colorado will soon be the centre of population; so that, when the nation's capital shall eventually be removed from the banks of the

Potomac, it will naturally find its permanent site in the shadows of the continental divide.

Attractive as she is to the young and aspiring, who bring to the conquest of nature the utmost vigor of mind and body, Colorado offers to the invalid the rarest combination of favoring conditions for the rehabilitation of his impaired vitality. At the spring of Manitou, at an altitude of over 6,000 feet, breathing the pure mountain air, and drinking the medicinal waters, prepared by the almighty chemist, the unhappy victim of the innumerable ills which flesh is heir to may almost consider himself to have found Ponce de Leon's long sought for fountain of youth.

We have referred to a few of the salient features presented by the state of Colorado for the reason that in the new civilization which the twentieth century is about to usher in, the United States will constitute altogether the greatest and most powerful national and geographical division of the human family; and hence the importance of a due consideration of the various internal divisions into states of our imperial domain, and the parts they are to take in the unfolding of the drama only the prologue of which we have yet witnessed.

The position of the United States as a nation has always been unique. The American people are constantly comparing themselves with the old world, constantly inviting criticism, and if in any respect it is found that America is lagging behind the civilization of Europe, she makes a supreme effort in that direction, till she reaches and surpasses her competitors. But inventions, political institutions, art, and literature, in passing from the old world to the new, not only receive a new impulse, but are to a certain extent re-created.

No amount of argument will make America adopt old-world theories, except as she may be able to adapt them to her own best interests and purposes, social or political. To rely upon herself, to develop her own resources, to manufacture everything that can possibly be manufactured within her territory—this is and has been the policy of the United States from the time of Alexander Hamilton to that of Henry Clay, and thence to our own days. Our people maintain that the small island of Great Britain, with its limited agricultural and mineral resources, and its northern climate, which admits of little diversity, is not a model for a country of twenty times its area, with almost unlimited mineral wealth, and containing every diversity of climate from arctic cold to the torrid heat of the equatorial zone. Economic methods which are beneficial in old-established governments, with social and other institutions that have grown up under conditions differing widely from our own, cannot, in the very nature of things, be wisely applied to the operations of American industries. Possibly, in some cases we may have carried the fostering of industries too far; we have endeavored to let no industrial enterprise perish for want of proper care. To be born one individual of the sixty-five millions in the United States, all sovereigns, is better than it was to be a Roman citizen in the olden times, with aspirations for the imperial purple.

What will be the characteristics of the new American type that is to appear in the next generation? Never before was there such a commingling of the Aryan races, the descendants of the Scandinavian, the German, the Frenchman, the Spaniard, the Italian, the Portuguese, the Irishman, the Scotchman, and the Englishman. Nature seems to have set aside this continent for the use of all the Aryan races, and for one of the greatest experiments that could be made in Aryan racial development.

Let us consider, for instance, what has been accomplished within the last few decades in the way of material improvements, though an enumeration of the various great public works accomplished by the federal and state governments, by municipalities and corporations, throughout our country, would be longer than the famous catalogue of ships in the Iliad, and is not within the scope of this work. Only a passing reference to a few of them can be essayed. The roads, railways, and canals that have been constructed in the United States are well-nigh innumerable.

If in the United States steel rails enough to twelve times girdle the earth have been laid since the time of John Quincy Adams, so many states and mountain systems have been spanned by railroads it would not seem to be a very long step in the ladder of progress in very truth to put a belt of railway around the earth. Great attention has also been paid to the construction of bridges and aqueducts, to the removal of impediments to river navigation, and to vast systems of irrigation. In many of these respects, the state of New York has taken the lead. That commonwealth is a network of roads, railways, and canals; and the underground aqueduct, the Brooklyn bridge, the removal of the obstructions at Hellgate, by skilful and elaborate submarine blasting, are wonders of civil engineering. Ead's jetties at the mouths of the Mississippi have more than doubled the depth of the channel at its entrance to the gulf.

The greatest immediate necessities for the Rocky mountain states were railways, by which their grain, fruits, and precious minerals, and other productions might be quickly transported to the east, and manufactured goods returned, with as little cost as possible; for the "ways of communication created by man are at once the measure and the means of civilization." These railways are among the marvels of American energy and mechanical skill; streams have been crossed by trestles and suspension bridges; and where it was not advisable to ascend to the summit of a mountain, tunnels have been made through the mountains. Thus much of the energy of the Pacific states has been expended upon her railways.

Doubtless many great works, such as the bridging of San Francisco bay, the supplying of all the important cities of the western slopes of California with water from the Sierra, the irrigation of many arid tracts that are now covered by sage-brush and the cactus, will be projected and completed in the next generatio

Following in the way, both broad and straight, which is shown by the light of the great conception of modern scientific thought and investigation, that all the processes of man and nature are governed by immutable laws, it is seen that events are never fortuitous; that the divisions of history into ancient, mediæval, and modern are but convenient chronological designations, and that there has been no such hiatus in the progress of man as he was, until recent times, as has been generally assumed by historians and philosophers. It has been abundantly proved that few men or people can rise much above nor sink far below the conditions of the age, and that upon adjustment and adaption to environment is every organism from highest to lowest dependent. Only by a patient and passionless study of the history of man in relation to his material conquests of nature, as well as of the development of abstract speculation, can the past or the present of the race be understood, or any trustworthy forecast of the future be possible.

Increase of knowledge in the industrial arts means a corresponding advance in morals and manners. The fallacy of the old sophism which links poverty with virtue, and wretchedness with morality, has long since been manifest to the thinker and observer; and hence it is that the name of benefactor is coming to be regarded as belonging to the inventor and discoverer of more potent means than were before known, rather than to the ascetic or hermit on the one hand, or the military hero on the other. The inventor of the locomotive has been of infinitely more service to the world than the mediæval saints, who spent their lives within the limits of a cloister; and the telegraph, the telephone, and the electric light, scientific achivements of our own age and country, are nobler and more enduring trophies of national greatness than all the military conquests that have emblazoned the pages of the epic muse since time was.

Civilization has advanced as man has progressed from the nomadic, the pastoral, the agricultural states, to the existing complex social and political conditions. It has gone forward from the period of superstition, of unrestrained imagination, and of fanciful conjectures concerning the origin of man (as in the Greek and Scandinavian mythologies) till it has reached our own, which may be styled an age of careful inquiry and rational hypotheses. Instead of again thrashing the old straws of metaphysics, the course of modern thought has been according to the principles of what is popularly termed the Baconian methods, or what Bacon himself called the new philosophy. Something of what it has effected has been thus described by Macaulay: "It has lengthened life; it has mitigated pain; it has extinguished diseases; it has increased the fertility of the soil; it has given new securities to the mariner; it has furnished new arms to the warrior; it has spanned great rivers and estuaries with bridges of form unknown to our fathers; it has guided the thunderbolt innocuously from heaven to earth; it has lighted up the night with the splendor of the day; it has extended the range of the human vision; it has multiplied the power of the human muscles; it has accelerated motion; it has annihilated distance; it has facilitated intercourse, correspondence, all friendly offices, all dispatch of business; it has enabled man to descend to the depths of the sea, to soar into the air, to penetrate securely into the noxious recesses of the earth, to traverse the land in cars which whirl along without horses, and the ocean in ships which run ten knots an hour against the wind. These are but a part of its fruits, and of its first fruits. For it is a philosophy which never rests, which has never attained, which is never perfect. Its law is progress. A point which yesterday was visible is its goal to-day, and will be its starting-post to-morrow."

Since these words were written, the stream of material and industrial progress and achievement has never slackened in the rapidity of its flow, nor has the strength and volume of its currents lessened. Steam and electricity are the steeds by which the chariots of the modern Agamemnons are drawn in the unceasing conflicts and conquests of the age of industry. The Cosmopolitan Railway is the cordon which is to bind the nations of the earth together as peaceful members of one family, in which the labors of each will be for the benefit of all, as by it only, with the electric wires which will accompany it, can the rapid, certain, and continuous communion of the partakers of our present civilization be possible, or the realization of the highest hopes of the philosopher and philanthropist be attained. As we believe with Frederick H. Hedge that "the world's history is not an aimless succession of events, a heap of facts fanned together by the flight of time, as the wind piles sand-drifts in the desert, but a process and a growth," and that the hands upon the dial of time are not to be turned backward, so we say with Tennyson:

"Not in vain the distance beacons. Forward, forward, let us range;
Let the great world spin forever down the ringing grooves of change.
Thro' the shadow of the globe we sweep into the younger day."

Undoubtedly the scheme of independence inaugurated in 1776, sustained through the fortitude of the continental army, and consummated in the union of 1787, contemplated a continental republic. In the ripening of time we were called upon to receive into this union the independent and equal states of the plateau, and to construct across it a complete system of continental railway.

It has been the design of the American continental republic from its first colonial origin to reverse the policy of the old world, to elevate civic concord to the administration of political power, to sustain it there, to dispense with the whole scheme of military despotism without respect to its antiquity, its arrogance, or the heretofore universal success of its subtle union of hypocrisy and force, to inaugurate for mankind a code of political practice which shall bring the science of government into accord with the divine code of morals and religion cradled 1890 years ago in the manger of the stable of Bethlehem.

This mission of civic empire has for its leading principle the physical characteristics and configuration of our continent, wherein the basin of the Mississippi predominates as supremely as the sun among the planets.

What is accomplished by the convergence of the continents of the old world in reducing all the outlets of navigation, and consequently of all commerce, to the single pass of Hercules is accomplished for our continent by the mountain formation. This is the South pass of North America—the exact equivalent single pass in our continent of land basins, to the water pass of Gibraltar among the water basins of the eastern hemisphere. The latitude is 42° 24′, the longitude 109° 26′. This is the same latitude at Boston, Bayonne, and Marseilles, as Trieste and Constantinople.

Along the continental line changes from the continental to the maritime climate, and *vice versa*, graduate themselves on the same delicate scale as that with which the surface slopes. Uniformity of climate from sea to sea is then so nearly approached that it actually exists all along this line.

Nature, here, for us, upon our continent, amid a stupendous vastness of configuration, preserves an austere simplicity, which guides the instinctive glance of empire with unerring certainty. Here is that continental line, the discovery of which mankind has awaited with the keenest curiosity. Here, in due time, will be constructed the Cosmopolitan Railway. Here, through the heart of our territory, our population, our states, our cities, our farms, and habitations, will be the broad current of commerce, where passengers and cargoes may at any time or place embark upon or leave the vehicles of transportation.

This Cosmopolitan Railway will be essentially a universal institution, more powerful and more permanent than law or popular consent or political constitutions to thoroughly complete the great system of arteries which fraternize all the world into one people; to bind seaboards into continental union, like ears to the human head; to radicate the foundations of our country in particular, so broad and deep, and establish its structure so solid, that no possible force or stratagem can shake its permanence; to secure such scope and space to progress that equality and prosperity shall never be impaired, or chafe for want of room.

The American people pursue the planting of empire, advancing with intense celerity; moving to the front according to a system understood, and self-disciplined; marching with the cadence of an army of innumerable legions; uniting in one homogeneous order, with the same energies, a single aim, and rushing to consummate a common destiny.

Society erects itself into empires in order to arrive at strength, civilization, and permanence. The most perfect example is the empire of the Romans, whose history we familiarly possess complete—their rise, culmination, and slow decline. This empire occupied and fused into one political and social system the basin of the Mediterranean, whose area is 1,160,000 square miles.

From out of this they never passed, except into the corner of Gaul and Britain, but restricted themselves to the Mediterranean and Pontic seas, to the Nile, the Danube, and the Rhone. This empire, embracing the above area, contained under Trajan and the Antonines 131,000,000 of people. But the area of this basin is, for the most part, a salt-water waste, into which protrude the peninsulas of Asia Minor, Greece, Italy, and Spain, themselves filled with mountain vertebræ, and also a few islands. Space for habitations and the production of food is therefore scarce.

The equivalent with us of this salt surface and rugged mountains is everywhere an undulating, calcareous plain, uniformly inhabitable and productive. The rivers surpass the sea for the freightage of commerce, and the front of land upon them exceeds the coasts of the oceans in area and accessibility. The basin of the Mississippi will then easily contain and feed ten times the population, or 1,310,000,000 of inhabitants.

If the calcareous plain extending to the Arctic sea, the two maritime fronts and the mountain formation be added, and the whole compared to Europe and Asia, 2,000,000,000 will easily find room—a population double the existing human race.

This basin is mainly within the temperate zone; but upon the shores of the gulf, at the level of the sea, tropical fruits, flowers, and vegetation are produced. On the high mountain slopes grows the vegetation of the arctic zone. Between these is found every kind of agricultural production, as we descend from the extremes to the central medium.

In position it is exactly central to the continent. Not far remote from the west bank of the Missouri river, in the bosom of romantic scenery and fertile prairie, is a spot where the Smoky Hill and Republican rivers by their confluence form the Kansas. This is the geographical centre at once of the North American continent and of the basin of the Mississippi.

The circle described from this centre with a radius to San Francisco will pass through Vancouver on the Columbia, the port of Severn river on Hudson bay, through Quebec, through Boston, through Habana, Vera Cruz, and the city of Mexico. With a radius to the 49th degree, a circle will pass through Mobile, New Orleans, and Matagorda. This spot is, therefore, as I have said, the geographical centre of the North American continent and of the basin of the Mississippi, both at once.

It is also the centre of the American union, as it is now blocked out into existing and prospective states, to occupy sites in the now-existing territories. Moreover, it is equidistant from and exactly in the middle between the two halves of the human family, distinctly concentrated; the one half Christians, occupying western Europe, to the number of 259,000,000 of population; the other half pagans, occupying oriental Asia and Polynesia, to the number of 650,000,000.

Europe has all the outlets of its inland seas and rivers toward the west, debouching on our Atlantic front, toward which its whole surface slopes. Asia similarly presents to our Pacific front an oriental slope, containing her great rivers, the densest masses of her population, and detached islands of great area, dense population, and infinite production.

The distance from the European to the Asian shores, from Paris to Pekin, travelling straight by the continuous river line of the Potomac, Ohio, Missouri, Platte, and Snake rivers, and across the two oceans, is only 10,000 geographic miles.

This straight line is the axis of that temperate zone of the northern hemisphere of the globe, thirty-three degrees in width, which contains three fourths of the land, nine tenths of the people, and nearly all the white races, commercial activity, and industry of the civilized world. When, therefore, this interval of North America shall be filled up, the affiliation of mankind will be accomplished, and the remotest nations grouped together and fused into one universal and convenient system of immediate relationship.

Such are some of the aspects presented to mankind, as a social mass, by the position and configuration of the Mississippi basin. There is another and superlative prospective view. This presents itself in contrasting the physical configuration of North America with the other continents.

Europe, the smallest in area of the continents, culminates in its centre into the icy masses of the Alps. From the glaciers, where all the great rivers have their sources, they descend the declivities and radiate to the different seas. Descending from common radial points, and diverging every way from one another, no intercommunication exists among the rivers of Europe toward their sources; navigation is petty and feeble. Art and commerce have never, during thirty centuries, united so many small valleys, remotely isolated by impenetrable barriers. Hence upon several of the large rivers dwell distinct peoples, differing from each other in race, language, religion, interests, and habits. Though often politically amalgamated by conquest, they again relapse into fragments, from innate geographical incoherence.

The history of these nations is a story of perpetual war, of mutual extermination; an appalling dramatic catalogue of a few splendid tyrannies crushing multitudinous millions of submissive and unchronicled serfs.

Similar to Europe in physical conditions, though grander in size and population, is Asia.

From the stupendous central barrier of the Himalayas run the four great rivers of China, due east, to discharge themselves under the rising sun; toward the south run the rivers of Cochin China, the Ganges, and the Indus; toward the west, the rivers of the Caspian; and north, through Siberia to the Arctic sea, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya mountains have proved insuperable barriers to the amalgamation of the nations around their bases, and dwelling in the valleys that radiate from their slopes.

The continents of Africa and South America, as far as we are familiar with the details of their surfaces, are also in parts divided into dislocated fragments.

In contrast, the interior of North America presents, so to speak, an expanded, concave bowl to receive and fuse into harmony whatsoever enters within its rim. So each of the other continents, presenting the convex surface of a bowl reversed, scatter everything from a central apex in radial distraction.

Political societies and empires have in all ages conformed themselves to geographical situation. This democratic-republican empire of North America is, then, predestined to expand and fit itself to the continent; to control the oceans on either hand, and eventually the continents beyond them. Much is uncertain, yet through all the vicissitudes of the future this much is discernible.

In geography the antithesis of the old world, in society we are and will be the reverse. Our North America will gradually accumulate a population equalling that of the rest of the world combined—a people one and indivisible, identical in manners, language, customs, and impulses; preserving the same civilization, the same religion; imbued with the same opinions, and having the same political liberties. Of this we have several evidences now under our eyes, and especially in the instinctive fusion into one language and into one new race of immigrant Germans, English, Norwegians, Celts, and Italians, whose individualities are obliterated in a single generation.

In the old world political and social science have found it impossible to have birth. To the American, experiences sought for and derived from the antique world are deceptive, sombre, and discouraging. War, monarchy, and submissive multitudes only are seen. Civil liberty has never permanently established itself. Societies have grown to be polished and enervated without emerging from semi-savage barbarism.

There was discernible in the temper of the generation of our statesmen who are now passed away, and who have seen our country saddened by civil strife, an idolatrous adulation of Europe; a proclivity to view with trepidation and to dwarf the aspiring genius and elastic energies of the American people. To bridle the continental mission of that people and curb it to the sway and dimensions of the Atlantic shore, to restrict it to this geographical selvage, ceased not to be with them a cherished policy. The grand North American Andes and the Pacific states have received only faint appreciation and acknowledgment; postponed in development from insufficient and stingy legislation or unfriendly silence.

But in our day, the grand pioneer army, having solidly established its lodgments around the whole encircling rim of our national territory, gathers its columns faces inward, assumes a concentric movement, departs from the seas and from river lines to converge on the centre. These columns unite by their flanks. They perpetually increase in numbers, pressure, and activity.

Behold, then, in the novel and auspicious thermal splendor of North America, united with its physical configuration and position, the birth of new and overwhelming powers and fresh forces!

The existence of these, or their combination, has heretofore been impossible or unthought of in human experience. These fresh powers and forces suddenly unveil themselves, ferment and modify all societies and reverse their fronts. They dictate a cosmopolitan comity and assume an overwhelming sway.

The gold fever has led to the indefinite production of sound money by the individual and voluntary labor of the people, to the multiplication of money and of money capitals, independent and individual in form, abundant in quantity, and prospectively unlimted in amount.

The California gold fever had its birth in 1848, and within a decade it transplanted itself to Pike's Peak. It has permeated mankind as an electric fluid, and fortified progress with impregnable power and activity. Its inspiring democratic genius has, within less than half a century, covered the continents with railways and with telegraphs.

Railways continue to extend themselves, soon to become a universal system over all the lands of the globe. We have seen the energies of the American people, bringing into line and into use these new powers, span their continent with the Pacific railways, as with the rapidity of lightning from a mountain cloud.

Availing themselves of the favorable thermal warmth upon the plateau, and upon the immediate sea-coasts, bathed by the Asiatic gulf stream (the Suro-Siwo), they will continue to expand their work to Bering straits, where all the continents are united.

This will extend itself along the similarly propitious thermal selvage of the oriental Russian coasts, into China.

To prolong this unbroken line of cosmopolitan railways along the latitudinal plateau of Asia, to Moscow, to Berlin, to Paris, to Madrid, and to London, will not have long delay.

The less significant and isolated continents of the southern hemisphere—South America, Africa, and Australasia—will be reached by feeders through Panamá, Suez, and the chain of oriental peninsulas and islands. The whole area and all the populations of the globe will be thus united and fused by land travel and by railways.

Behold what four brief decades have sufficed to originate and accomplish, in an age awakened and armed with the subtle, democratic power of free and abundant gold! What celerity of motion! What vivacity of progress! What victorious, what triumphant, what sublime, energies! What works of magnitude! How benignant to mankind! How prophetic of the future! How charitable to universal humanity!

CHAPTER XII

APPENDIX

I.—MEXICAN WAR

REMARKS OF MAJOR GILPIN, AT THE BARBECUE GIVEN THE COLE INFANTRY, AT JEFFERSON CITY, THURSDAY, AUGUST 10, 1847.

HAPPY are those who, after hopes long suspended and harassing anxieties long and doubtingly endured, come to find their hopes consummated by brilliant successes, their anxieties relieved by enthusiastic praises and the shouts of triumph.

Such are the soldiers who, their trials ended and their long and exhausting services at an end, are here assembled to receive the greetings of their kindred, and listen to their flattering praises and their shouts of victory and welcome.

During thirty-two years of peace—a long period, which includes the birth of nine tenths of us—our own state has joined the confederacy. War came suddenly. With the same pen which signed the declaration of hostilities between Mexico and the United States the president directed to Missouri the first requisition for the war.

It asked a slender force of 1,500 men—all volunteers but 300 dragoons—to cross the great plains and penetrate Mexico by the north.

Bounding forth at the sound of the war-bugle, in one month were assembled at Fort Leavenworth, beyond the western verge of our union, the 1st regiment of Missouri cavalry, the battalion of artillery from St Louis, the battalion of Cole infantry, and the Laclede rangers, 1,200 in all, and forth they marched.

Wars had occupied mankind for one hundred centuries, but they had been wars between adjacent nations—marches had been confined to inhabited countries, where provisions abounded on the routes.

Here was a wilderness of a thousand miles to be traversed, and the enemy to be encountered at home, in great strength, and abounding in resources. A failure to transport with us complete supplies was certain disaster and starvation—a check received from the enemy at their threshold would eventuate the same. This enemy was the people of Mexico, a sister republic.

Years had been exhausted in ingenious devices on our part to avoid this conflict. Our citizens had been massacred in Texas amidst the very orgies of barbarism; our merchants had been plundered and imprisoned; our flag insulted in their metropolis; our citizens murdered, maltreated, and scoffed for their religion; debts accumulating during thirty years unpaid; treaties contemptuously violated; more than all, an attempt to imitate our republican system, productive only of anarchy, stood as a burlesque beside us on our own continent, furnishing to the malevolent food for satires upon popular freedom in the new world.

Forth, then, into the wilderness plunged the little army of Missouri to encounter these enemies of their country, their country to them always right.

The plains were passed, and the rugged mountains which, dividing from the Rocky mountains, encircle New Mexico, were reached. Their rapid progress had outstripped the provision trains. Amidst fatiguing marches, dust, solstitial heats, and scanty water, subsisting on one quarter of the ordinary ration, they rushed onward to Santa Fé.

The army of New Mexico, in numbers three to one of our force, occupying the impregnable gorge of Gallisteo, which covers the approach to Santa Fé, dispersed in dismay. On the 18th of August, three months from the proclamation of war, made at Washington City, 2,300 miles distant, the state of New Mexico lay conquered, and the American flag floated over the capitol at Santa Fé.

Occupied until the middle of September in securing the subjugation of the country, the 1st regiment descended the Del Norte to the lower settlements, receiving the submission of the towns and people, and returned to Santa Fé.

New Mexico contains 100,000 inhabitants, vast resources, and by its basin-like configuration is easily defensible and difficult to be conquered or long held in subjection.

New Mexico is surrounded by powerful tribes of military Indians: the Comanches, toward Texas, the Yutas and Navajos in the Rocky mountains and on their slope toward the Pacific.

Issuing from the surrounding mountains, these warlike Indians strike down the people, devastate the banks of the Del Norte, and drive forth the stock. In years past they have plundered from Mexicans many millions of sheep and cattle. By the submission of New Mexico we had become the guardians of her people and territory. The pious duty remained to tame her savage foes.

The infantry, artillery, and dragoons remained to garrison Santa Fé; a fort was built to command its approaches; a treaty was asked for and made by the Comanches. The 1st regiment, in three detachments, departed for the recesses of the Rocky mountains late in September, the one penetrating toward the northwest by Cañada and the Chamas against the Yutas and Navajos; another, southwest by Albuquerque and Saboletta; a third descended by the Del Norte, covering the American traders bound eventually to Chihuahua.

The northern column passed out through a denuded country and devastated villages, to which the fugitive Mexicans returned under its protection, and, reaching the recesses of the Rocky mountains by the sources of the river Chamas, in one month delivered to the authorities in Santa Fé sixty-five Yutas, including their chiefs and chief warriors.

With them was formed a treaty of peace, since faithfully observed by those Indians. This restored many thousand families of Mexicans to their farms and firesides, and gave quiet to the northern frontier.

Supplies having been with great difficulty collected, this same column prepared to pass the eternal barrier of the Rocky mountains, and scare up the Navajos, reposing in security on their western slope.

On the 2d of November—in this climate the depth of winter, indicated by the snows which enwrapped the surrounding mountains—this little force, 300 strong, abandoning their tents and wagons, entered the gorges that led up to the pass of the San Juan, the head of this great river, which flows to the Pacific.

With us were 70 Mexican allies, and 100 pack-mules transporting provisions. In seven days, contending against snowstorms and ice at an altitude of 10,000 feet in midwinter, and unpalatable water, the passage of the great mother mountain of the continent was accomplished. The measles scourged our camp. The brave boys Foster and Bryant fell a prey to its ravages.

Following for some days the great San Juan, leaving its banks swarming with the sheep and horses of the Navajos, and crossing toward the south the impracticable mountain of Tunicha—never before trodden by white men—we descended into the cavernous region of Challa, amidst the seclusion of which are the forts and fastnesses of the Navajos.

Astounded at the appearance of an American force where they had trusted it could never penetrate, the chiefs tendered presents, restored the horses which had been stolen from New Mexico, and promised abject submission.

Taking with us nine chiefs commissioned to bind the nation, we hastened toward the snowy peaks, which rose 200 miles to the east and barred our return to New Mexico. At the western base of these, in the territory of the Zuñis, we awaited the arrival of the colonel commanding, to whom the Navajos' chiefs swore eternal friendship to the white man.

Marching hence under the western edge of the mountain-crest, we visited and smoked the pipe in the city of the Zuñis. This people, many of them albinos, one of the lost specks of the antique Aztec race, inhabit a solitary city in the centre of the immense plain traversed by a northern branch of the Gila river.

Hence, recrossing the great mother mountain by the Zuñi pass on the first four days of December, we descended to the Del Norte. Joyously did we meet again our fellow-soldiers, and soon the 1st regiment found itself reunited at Valverde, 250 miles below Santa Fé, about to pass onward to the conquest of El Paso and Chihuahua.

Thus, since our departure from Santa Fé, had our little force under my command reduced to peace the Yuta and Navajo nations, 40,000 strong, accomplished a march of 750 miles, crossed and recrossed the Sierra Madre, passed the Tunicha and Chiuska mountains, and many rivers.

During many successive nights the cold descended to the freezing-point of mercury; the streams were frozen solid; the pasture scanty; and of fuel there was but a stingy handful of evergreen weeds; two brave men and many horses had perished; for the rest, their health was good, and their spirits always gay and undaunted.

This is the first military force of our nation which, crossing the Rocky mountains and unfurling the national standard upon the waters of the Pacific, has received for it the submission of a hostile people; and this was accomplished in the depth of winter.

A portion of our little army, the artillery and infantry, remained to occupy New Mexico; another, accompanying General Kearny, had gone to secure the conquest of California. The Indians having been subdued, the 1st regiment was now concentrated at Valverde, on the lower edge of New Mexico, meditating the conquest of the rich and populous state of Chihuahua.

This was the 12th of December. Our regiment mustered 760 men. The weather was intensely cold, the river ran with ice; we had no tents, and our animals starved upon the harsh, dry grass. In El Paso, 200 miles below, are comfort and plenty, wine and corn, and houses, and a delicious climate; but there, too, are a regular force of 1,500 Mexicans and five pieces of artillery. Between the armies is the Jornada, or Journey of the Dead, a dreary stretch of 100 miles, without wood or water.

At the entrance of the Jornada, awaiting our advance, were the American merchants, having 300 wagons, charged with $1,000,000 worth of merchandise. One hundred men under Captain Hudson subsequently came to us from Santa Fé, called the Chihuahua rangers; they were drawn from the 2d regiment, Colonel Price's. An express was sent back to Santa Fé for one company of artillery, commanded by Captain Waitman. This company overtook us afterwards in El Paso, about the 1st of February.

On the 12th, a forlorn hope of 300 passed onward to open the passage through the Jornada; with this were captains Parsons, Waldo, Reid, and Rodgers. We expected to meet the enemy as we should pass onward from its jaws.

The passage was accomplished; no enemy obstructed our exit at the farther end; we descended to the river and quenched our thirst, continued during through three days and nights. Robledo is the name given to the lower mouth of the Jornada. Twelve miles below is the little town of Dona Ana; it has plenty of corn, and 600 people.

This is the only settlement above El Paso, which is 80 miles distant. On the morrow we entered Dona Ana, and there learned that the Mexican army would advance to meet us as we should descend to El Paso.

On the 23d, our whole force, having successfully passed the Jornada, reunited at Dona Ana.

On the 24th, our march was 18 miles. On the 25th, advancing rapidly ahead of the wagon train, we encamped at Brazito, 19 miles, about one o'clock. The camp-guard, 60 strong, the wagon-guards, and many men with jaded horses, were in the rear. This was Christmas day.

At two o'clock the approaching cloud of dust revealed the advance of the Mexicans. The bugles sounding to arms, our force was deployed in a single line on foot upon the prairie in front, and enveloping the wagons; we numbered 424.

The Mexicans deployed immediately in our front in gallant style, and rapidly; they numbered 1,250. The veteran Vera Cruz dragoons were on the right; the Chihuahua cavalry on the left; in the centre, infantry. Now it was that a black flag was flapped in our eyes from the centre of the Mexican line. It was defied; the shock of battle followed.

The Mexicans charged upon our line, their cavalry converging to our front, their infantry advancing. Our men, sitting down and receiving many volleys from their artillery, musketry, and escopets, decoyed them close, when, suddenly rising and pouring in a lurid sheet of fire, the enemy, riddled everywhere, fled howling.

Their artillery was taken, 63 were killed, and a vast quantity of arms taken from them. Those who escaped deserted from the Mexican army.

This was Christmas day, the 9th anniversary of Okechobee. Thus did the Missouri volunteers confirm upon him the great lie uttered against them by their commander on that former day.

Victory hastened our marches. On the morning of the 27th we entered El Paso. Awaiting the arrival of artillery, we lingered six weeks in the delicious settlements of El Paso. About 20,000 Mexicans here cultivate the grape, and enjoy much prosperity and a delicious climate.

On the 9th of February we moved on to Chihuahua. The interval, 280 miles, if seen by you who inhabit this our verdant land, would be pronounced a howling desert, such is its austere and forbidding aridity; Sahara does not exceed it; jornadas of 75 miles, without water, wood, or grass; gravel, sand, and rocks possess it merely; benumbing cold at night, at midday heat and dust.

On the 27th we reached Sous, 40 miles from Chihuahua. Midway between Sous and Chihuahua is Sacramento; here is the only water in that whole distance, and between us and the opportunity to slake our thirst was intrenched the Mexican army.

On the afternoon of the 28th was gained the marvellous victory of Sacramento, in which your soldiers covered themselves with imperishable glory. On the following and succeeding days our whole column entered Chihuahua.

At Chihuahua we heard with exultation of the gallant conduct of the Cole infantry and Fisher's artillery at Cañada and Taos—of their good discipline and gallant bearing whilst in garrison at Santa Fé. These were soldiers of the first requisition, and tried with us the opening campaign of the prairies. Let us here, then, as at Chihuahua, crown with the same chaplet the soldiers of Brazito, Sacramento, Cañada, Taos, and El Paso, sharing alike the honors won by all.

During two months did the Missouri column hold undisturbed possession of the metropolis of Chihuahua and control its dependencies. Insurrections planned both here and at El Paso were anticipated and nipped in the germ. American traders and messengers traversed the state unharmed. It had been said that so small a force could not hold Chihuahua. It was done, and that with a firm and tranquil grasp.

But the period of our service neared its close. From our own government not a whisper had reached us from the outstart; no pay, no ammunition, our cartridges were made of powder taken at Brazito, no reinforcements, no money, no reminiscence of our own existence was discernible.

General Wool had deflected from his first intentions, and never appeared at Chihuahua. On the 28th of April Chihuahua was evacuated, in obedience to an order from General Taylor that we should join his column at Buena Vista and Monterey.

The march to Monterey, 650 miles, was accomplished in 29 days; 17 pieces of artillery, with their caissons, and a train of 200 heavy wagons, accompanied us. It was upon this descent from the table-lands to the maritime region that our sufferings, from brackish water, suffocating dust, night marches rendered necessary by long stretches and heat, were most excessive.

Here, too, at El Paso, near the city of Parras, was won a glorious victory over the Comanches, by a small handful of our gallant men, led by Captain Reid; 17 Indians bit the dust.

From the outposts of the southern army, beyond Buena Vista, we reached Camargo, on the Rio del Norte, in nine days, passing through the cities of Saltillo, Monterey, and through Ceralvo.

Since the departure of the Missouri column from the western border up to our return to our homes by the eastern border of our state, we have traversed the full distance of 7,500 miles.

No position of equal importance to that of Chihuahua has ever yet been held by the United States in Mexico, nor anywhere, by so small a force. One thousand Missourians, occupying Chihuahua, were cut off from Mexico, New Mexico, and the two Californias in their rear.

Fearing perpetually to be invaded, the states of Durango and Sonora withheld from the Mexican goverment all men, military supplies, or financial aid. The ample wealth, resources, mints, cannon, foundries, and *matériel* of Chihuahua were converted to our uses.

Thus, then, by this central position, were held in check and severed from the enemy three fifths of the territorial soil of the republic of Mexico and 500,000 of her population.

This position, too, commands the great and magnificent road which leads down the central table-lands, through the capitals of Durango, Zacatecas, Aguas Calientes, Leon, Guanaxuato, and Querétaro, to the city of Mexico. This route is unobstructed by mountains, and leads to Mexico through a prolific and very healthy region. It is the one by which the traders from Missouri annually visit the great fair of San Juan and the city of Mexico.

It appears to me that the column of Missouri is the only one which has made war with effect and obtained from it worthy results. To be sure, our government has thrown them away, as unworthy of notice, and worthless; but this does not lessen our merits.

In June 1846, when the Missouri column left Fort Leavenworth, General Taylor's column was at Camargo, ready to march on Mexico by the route of San Luis Potosí. In June, 1847, the Missouri column, returning by the gulf, found General Taylor's advance posts at Buena Vista, only nine days' march in advance of that same Camargo.

To be sure, Taylor's column had won great victories; but so, also, had the column of Missouri, against a variety of enemies.

The southern army lay helpless upon an unimportant edge of Mexico, hemmed in by guerillas—such as we found it. Its expenses amounted to $1,000,000 per week. Seventy-five thousand American soldiers had been sent in and out of Mexico in a single year in this direction.

The numbers of soldiers had borne a small ratio to those employed in men-of-war, in fleets of transports and steamers, at the depots, and with wagon trains. Four months had been consumed in advancing from the Del Norte to Monterey, 280 miles; five months from Monterey to Saltillo, 80 miles. Henceforward all has been complete stagnation.

The possessions of the southern army are strictly confined to the cities of Monterey and Saltillo. A whole army is consumed in guarding from massacre and destruction the trains passing along the road that connects them with the Del Norte, only 300 miles.

The column of Missouri supported itself from the Mexican purse. After fulfilling its orders completely, by the conquest of the states of New Mexico, Chihuahua, the two Californias, and punishing many Indian nations, closing its onward progress at Chihuahua, we have marched 600 miles from the heart of the Mexican territory, coming out to generals Taylor and Wool.

Finally, one great result is proved by these various campaigns. It is by the route of the plains and the table-lands of Mexico only that the Mexican nation can be conquered and held in subjection by the Americans.

The configuration of the country, the health, the supplies upon the route, its shortness, and the extraordinary results accomplished by the Missouri column, demonstrate this. The slender means and small cost of our campaign add more strong proofs of this.

Fellow-countrymen and ladies: The soldiers of the first requisition from Missouri, excepting those who sleep forever beneath the shadows of the Sierra Madre, have returned to receive the greetings of their friends and kindred. We bring with us the spoil of the enemy as trophies of our victories.

These assemblies, these crowds of fair women and brave men, these complimentary festivals and flattering words resounding in our ears from every village and from every cabin, are the gratifying rewards of our efforts and our deeds.

Thus are our long-suspended hopes and painful anxieties consummated by a deep and gratifying sense of triumph. So have we performed our task, and such is our munificent reward.

Suffer me to say, as one elevated by their own suffrages to an important command among them, as well to my fellow-soldiers as to those here present who have sons or brothers or friends among them, that I found among the men at all times the most admirable discipline, the most prompt and spontaneous obedience; at all times a modest, unassuming bravery, which met thirst and cold and starvation and exhausting night marches with songs and gayety and merriment.

They displayed on the field and in the hour of battle a quiet anxiety for the charge, and then plunged down upon the enemy with a fiery fury which overwhelmed them with defeat and stung them with despair. These qualities they adorned with moderation after victory and clemency to the vanquished.

But the career of your soldiers, so happily begun, closes not here. May they not yet devote their young energies to a country which they ardently love, and which thus generously illustrates its love for them?

War has been to our progressive nation the fruitful season of generating new offspring to our confederation.

During the revolution, little armies, issuing from the Alleghanies, passed over Kentucky, the Northwest territory, and Tennessee. These new countries had been reconnoitred and admired. With hardy frames, confirmed health, and recruited by a year or two of peace, these soldiers returned to occupy the choice spots which had been their bivouac and camping-grounds. From the campaigns of war grew the settlements of peace, and populous states displaced the wilderness. Another war came with another generation; armies penetrated Michigan, upper Illinois, and into Mississippi. The great Mississippi, crossed at many points, ceased to be a barrier, and the steamboat appeared, ploughing its yellow flow. Five great states and 2,000,000 of people emblazon its western bank.

And now, again, have come another generation and another war. Your little armies have scaled the eternal barriers of the mother mountain of the new world, and, buried for a time in the mazes of its manifold peaks and ridges, have debouched at many points upon the briny beach of the Pacific.

Passing round by the great oceans, a military marine simultaneously strikes the shore and lends them aid. Thus is the wilderness reconnoitred in war, its geography illustrated and its conquerors disciplined.

Your soldiers, resting for a time at home, will sally forth again, and, wielding the weapons of husbandry, give to you roads that will nurture commerce and a sisterhood of maritime states on the new-found ocean.

We return, then, to the bosom of our glorious state, to bury our bounding hearts in the joys of responsive gratulations. Coming from arid wastes and the unrelieved sterility of mountains and plains to scan again the verdant fields and mantling forests of our mother-land, which of us all does not apostrophize, with glowing hearts, our native scenes? Hail to Columbia, land of our birth; hail to her magnificent domain; hail to her generous people; hail to her matrons and her maidens; hail to her victorious soldiers; all hail to her as she is; hail to the sublime destiny which bears her on through peace and war, to make the limits of the continent her own, and to endure forever!

II.—SPEECH OF COLONEL WILLIAM GILPIN

On the Subject of the Pacific Railway. First Spoken at the Camp of Five Thousand California Emigrants, at Wakerusa, now the City of Lawrence, Kansas. Repeated at Independence, Missouri, at a Mass Meeting of the Citizens of Jackson County, Held November, 5, 1849.

It is with profound pleasure, Mr Chairman, that I address my fellow-citizens here assembled to respond approvingly to the national convention at St Louis.

Having shared with the pioneers from Missouri in the original exploration and settlement of Oregon and California, having since been one among those soldiers who carried, during war, our national flag across the Sierra Madre, and planted it upon the waters descending to the Pacific, never thence to recede, I greet with enthusiastic joy these civic movements of the people to consummate with the great works of peace what war and exploration have opened.

Diplomacy and war have brought to us the completion of our territory and peace. From this we advance to the results. These results are, for the present, the imperial expansion of our republic to the other ocean, fraternity with Asia, and the construction across the centre of our territory, from ocean to ocean, of a great iron pathway, specially national to us, international to the northern continents of America, Asia, and Europe.

In approaching a discussion of a national railroad from the Mississippi to the Pacific, infinite in number and variety are the matters which swarm up and demand to array themselves in its advocacy. Thus do I feel embarrassed how to say such things only as are true and sensible in themselves as well as interesting to my hearers; let me, then, sketch what I may say under the following heads: 1. The national character of this work and its necessity; 2. Its practicability, and the present capacity of the nation; 3. The time and manner of its construction.

Progress, political liberty, equality: these, the most ancient and cardinal rights of human society, perplexed in the obscurity of military despotism, and almost lost for many centuries, are now struggling throughout the world to reëstablish their preëminence. In America they occupy the vantage-ground; for sovereignty resides in the suffrage, and with us it is universal.

Progress, then, in America has the intensity of the whole people, showing itself in forms as infinite as the thoughts of the human mind. But it is to that department of progress which creates for us new states in the wilderness, and expands the area of our republic, that I here restrict myself. Let us understand this; what it is at the present hour, what stimulates, what retards it.

Since 1608 we have grown from nothing to 22,000,000; from a garden-patch to be thirty states and many territories. This, with agriculture, manufactures, commerce, power, and happiness, is our progress so far.

The annual yield in money of this agriculture and these manufactures is now $2,000,000,000. This commerce vexes all the waters and penetrates to all the nations of the earth. This power, tranquilly complete on our own continent, compels peaceful deference abroad. This happiness, so beneficently felt at home, recruits us with the oppressed of all nations.

But the life of a nation is long. Unlike human life, briefly extinguished in the grave, a nation breathes ever on with the vigor of generations of men daily arriving at maturity, and then departing. A nation has then a normal law of growth; and it is this law which every American citizen ought familiarly to understand, for obedience to it is the first duty of patriotism.

Up to the year 1840, the progress whereby twenty-six states and four territories had been established and peopled had amounted to a solid strip of twenty-five miles in depth added annually along the western face of the union from Canada to the gulf.

This occupation of wild territory, accumulating outward like the annual rings of our forest trees, proceeds with all the solemnity of a providential ordinance. It is at this moment sweeping onward to the Pacific with accelerated activity and force, like a deluge of men, rising unabatedly, and daily pushed onward by the hand of God.

It is from the statistics accumulated in the bureaus at Washington—the decennial census, sales of public lands, assessments of state and national taxes—that we deduce with certainty the law of this deluge of human beings, which nothing interrupts and no power can stop.

Fronting the union on every side is a vast army of pioneers. This vast body, numbering 500,000 at least, has the movements and obeys the discipline of a perfectly organized military force. It is momentarily recruited by single individuals, families, and in some instances communities, from every village, county, city, and state in the union, and by emigrants from other nations.

Each man in this moving throng is in force a platoon. He makes a farm upon the outer edge of the settlements, which he occupies for a year, and then sells to the leading files of the mass pressing up to him from behind.

He again advances twenty-five miles, renews his farm, is again overtaken, and again sells. As individuals fall out from the front rank, or fix themselves permanently, others rush from behind, pass to the front, and assail the wilderness in their turn.

Previous to the late war with Mexico, this busy throng was engaged at one point in occupying the peninsula of Florida and lands vacated by emigrant Indian tribes, at another, in reaching the copper region of Lake Superior, in absorbing Iowa and Wisconsin.

From this very spot had gone forth a forlorn hope to occupy Oregon and California; Texas was thus annexed; the Indian country pressed upon its flanks, and spy companies reconnoitring new and old Mexico.

Even then, obeying that mysterious and uncontrollable impulse which drives our nation to its goal, a body of the hardiest race that ever faced varied and unnumbered privations and dangers embarked upon the trail to the Pacific coast, forced their way to the end, encountering and defying dangers and difficulties unparalleled with a courage and success the like to which the world has not heretofore seen.

Thus, then, overland sweeps this tide-wave of population, absorbing in its thundering march the glebe, the savages, and the wild beasts of the wilderness, scaling the mountains and debouching down upon the seaboard.

Upon the high Atlantic sea-coast, the pioneer force has thrown itself into ships, and found in the ocean fisheries food for its creative genius. The whaling fleet is the marine force of the pioneer army.

These two forces, by land and sea, have both worked steadily onward to the north Pacific. They now reunite in the harbors of Oregon and California, about to bring into existenee upon the Pacific a commercial grandeur identical with that which has followed them upon the Atlantic.

National wars stimulate progress, for they are the consequence of indiscreet opposition and jealousy of its march—and because in these periods of excitement the adventurous brush through the cobweb laws spun by the metaphysics of peace. Then it is that the young pioneers, entering the armies of the frontier, rush out and reconnoitre the unpruned wilderness.

During the revolution, little armies, issuing down the Alleghanies, passed over Kentucky, Tennessee, and the Northwest territory. These new countries were reconnoitred and admired. With hardy frames, confirmed health, and recruited by a year or two of peace, these soldiers returned to occupy the choice spots which had been their bivouac and camping-grounds.

From the campaigns of war grew the settlements of peace, and populous states displaced the wilderness.

Another war came with another generation. Armies penetrated into Michigan, upper Illinois, and through Mississippi. The great Mississippi river, crossed at many points, ceased to be a barrier, and the steamboat appeared ploughing its yellow flood. Five great states, five territories, and three millions of people now emblazon its western side.

And now again have come another generation and another war. Your armies have scaled the icy barriers of the mother mountain and the Andes. Hid for a time in the mazes of their manifold peaks and ridges, they have issued out at many points upon the beach of the blue Pacific. Passing round by the great oceans, a military marine simultaneously strikes the shore and lends them aid. Thus is the wilderness reconnoitred in war, its geography illustrated, and its conquerors disciplined.

Your young soldiers, resting for a moment at home, resuming the civic wreath and weapons of husbandry, have sallied forth again to give to you great roads for commerce and a sisterhood of maritime states on the new-found ocean.

Only four years ago, the nation, misled by prejudices artfully instilled into the general mind, regarded the great western wilds uninhabitable, and the new ocean out of reach. War came; 100,000 soldiers, and as many citizens, went forth, penetrated everywhere, and returned to relate in every open ear the wonderful excellence of the climates and countries they had seen.

Hence have come already these new states, this other seaboard, and the renewed vivacity of progress with which the general heart now palpitates. Will this cease or slacken? Has the pouring forth of the stream from Europe ever ceased since the day of Columbus? Has the grass obliterated the trails down the Alleghanies or across the Mississippi? Rather let him who doubts seat himself upon the bank of our magnificent river and await the running dry of its yellow waters; for sooner shall he see this than a cessation in the crowd now flowing loose to the western seaboard.

Gold is dug; lumber is manufactured; pastoral and arable agriculture grows apace; a marine flashes into existence; commerce resounds; the fisheries are prosecuted; vessels are built; steam pants through all the waters.

Each interest stimulating all the rest, and perpetually creating novelties, a career is commenced, to which, as it glances across the Pacific, the human eye assigns no term.

The distance from the top of the Sierra Madre (Rocky mountains), where you leave behind the waters flowing to the Atlantic, is everywhere some 1,500 miles. The topographical character of this ultramontane region is very grand and characteristic. It is identical with that at the sources of the La Plata, Amazon, and Magdalena of South America, but more immense.

Sketched by its great outlines, it is simply this: The chain of the Andes, debouching north from the Isthmus, opens like the letter Y into two primary chains (cordilleras).

On the right the Sierra Madre, trending along the coast of the Mexican gulf, divides the northern continent almost centrally, forming an unbroken water-shed to Bering strait. On the left, the Andes follow the coast of the Pacific, warp around the gulf of California, and passing along the coast of California and Oregon, under the name of Sierra Nevada, terminate also near Bering strait.

The immense interval between these chains is a succession of intramontane basins, seven in number, and ranging from south to north. The whole forms the great plateau of the tablelands.

First is the basin of the city of Mexico, receiving the interior drainage of both cordilleras, which waters, having no outlet to either ocean, are dispersed again by evaporation.

Second, the Bolson de Mapimi, collecting into the Laguna the streams draining many states, from San Luis Potosí to Coahuila, also without any outflow to either ocean.

Third, the basin of the Del Norte, whose vast area feeds the Rio del Norte, the Conchos, and Pecos. These, concentrated into the Rio Grande del Norte behind the Sierra Madre, have, by their united volume, burst through its wall and found an outlet toward the Atlantic. The geological character of this basin, its altitude, its configuration and locality—all assign it this position, as distinguishing it from all others contributing their waters to the Atlantic.

Fourth, the basin of the great Colorado of the west. This immense basin embraces above, the great rivers Rio Verde and Rio Grande, whose confluent waters, penetrating the mighty cordillera of the Andes athwart from base to base, discharge themselves into the gulf of California. Into this sublime gorge, the cañon of the Colorado, the human eye has never swept, for an interval of 575 miles, so stern a character does nature assume where such stupendous mountains resist the passage of such mighty rivers.

Fifth, the basin of the Great Salt lake, like the Caspian of

Asia, containing many small basins within one great rim, and losing its scattered waters by evaporation, has no outflow to either ocean.

Sixth, the basin of the Columbia, lying across the northern flanks of the two last, and grand above them all in position and configuration. Many great rivers, besides the Snake and upper Columbia, descend from the great arc of the Sierra Madre, where it circles toward the northwest from the 43d to the 52d degree, flowing from east to west, and concentrating above the Cascades into a single trunk. It here strikes the mighty cordillera of the Andes, narrowed to one ridge, and disgorges itself through this sublime pass at once into the open Pacific.

It is here, descending by the grade of this river the whole distance from the rim of the valley of the Mississippi and through the Andes to the Pacific, that the great debouch of the American continent toward the west is found. Here will be the pathway of future generations, as the people of the old world pass down the Mediterranean and out by Gibraltar.

Above, the basin of Frazer river forms a seventh of the table-lands. This has burst a cañon through the Andes, and like the fourth and sixth basins, sends its waters to the Pacific.

With the geography of the more northern region we are imperfectly acquainted, knowing, however, that from Puget's sound to Bering's strait the wall of the Andes forms the beach itself of the Pacific, whilst the Sierra Madre forms the western rim of the basins of the Saskatchewan of Hudson bay and the Athabasca of the Arctic seas.

Thus, then, briefly, we arrive at this great cardinal department of the geography of the continent, viz., the table-lands, being a longitudinal section, about two sevenths of its whole area, intermediate between the two oceans, but walled off from both, and having but three outlets for its waters, viz., the cañons of the Rio Grande, the Colorado, and the Columbia.

Columnar basalt forms the basement of this whole region, and volcanic action is everywhere prominent. Its general level, ascertained upon the lakes of the different basins, is about 6,000 feet above the sea. Rain seldom falls, and timber is rare.

The ranges of mountains which separate the basins are often rugged and capped with perpetual snow, whilst isolated masses of great height elevate themselves from the plains. This whole formation abounds in the precious metals. Such is the region of the table-lands.

Beyond these is the maritime region; for the great wall of the Andes, receding from the beach of the Pacific, leaves between itself and the sea a half-valley, as it were, forming the seaboard slope from San Diego to the straits of Juan di Fuca This is 1,200 miles in length and 250 broad. Across it descend to the sea a series of fine rivers, ranging from south to north, like the little streams descending from the Alleghanies to the Atlantic.

These are the San Gabriel, the Buenaventura, the San Joaquin and Sacramento, the Rogue, Klamath, and Umpqua rivers, the Willamette and Columbia, the Cowlitz, Chehalis, and Nisqually of Puget sound.

This resembles and balances the maritime slope of the Atlantic side of the continent; but it is vastly larger superficially; of the highest agricultural excellence; basaltic in formation; grand beyond the powers of description, the snowy points and volcanoes of the Andes being everywhere visible from the sea, whilst its climate is entirely exempt from the frosts of winter.

Such, and so grand, is our continent toward the Pacific. Let us turn our glance toward the Atlantic and Arctic oceans, and scan the geography in our front. Four great valleys appear, each one drained by a river of the first magnitude:

1. The Mississippi valley, greatest in magnitude, and embracing the heart and splendor of the continent, gathers the waters of 1,500,000 square miles, and sheds them into the gulf of Mexico;

2. The St Lawrence, whose river flows into the north Atlantic;

3. The Nelson and Severn rivers into Hudson bay;

4. The great valley of the McKenzie river, rushing north into the Hyperborean sea.

These valleys, everywhere calcareous, have a uniform surface, gently rolling, but destitute of mountains, and pass into one another by dividing ridges, which distribute its own waters into each, but whose superior elevation is only distinguishable among the general undulations, by the water-sheds which they form.

Around the whole continent, following the coasts of the oceans, runs a rim of mountains, giving the idea of a vast amphitheatre. Through this rim penetrate toward the south, east, and north the above great rivers only, forming at their debouches the natural doors of the interior; but no stream penetrates west through the Sierra Madre, which forms an unbroken water-shed from Magellan's to Bering's strait.

Thus we find more than three fifths of our continent to consist of a limitless plain, intersected by countless navigable streams, flowing everywhere from the circumference toward common centres, grouped in close proximity, and only divided by what connects them into one homogeneous plan.

To the American people, then, belongs this vast interior space, covered over its uniform surface of 2,300,000 square miles, with the richest calcareous soil; touching the snows toward the north, and the torrid heats toward the south; bound together by an infinite internal navigation; of a temperate climate; and constituting, in the whole, the most magnificent dwelling-place marked out by God for man's abode.

As the complete beneficence of the almighty has thus given to us, the owners of the continent, the great natural outlets of the Mississippi to the gulf, and the St Lawrence to the north Atlantic, so is it left to a pious and grateful people, appreciating this goodness, to construct through the gorge of the Sierra Madre a great artificial monument, an iron path, a national railway to the western sea.

Here we perceive, in the formation of the American continent, a sublime simplicity, a complete economy of arrangement, singular to itself, and the reverse of what distinguishes the ancient world. To understand this, let us compare them.

Europe, the smallest of the grand divisions of the land, contains in its centre the icy masses of the Alps; from around their declivities radiate the large rivers of that continent: the Danube directly east to the Euxine; the Po and Rhone south to the Mediterranean; the Rhine to the northern ocean.

Walled off by the Pyrenees and Carpathians, divergent and isolated are the Tagus, the Elbe, and other single rivers, affluents of the Baltic, the Atlantic, the Mediterranean, and the Euxine.

Descending from common radiant points, and diverging every way from one another, no intercommunication exists between the rivers of Europe; navigation is petty and feeble; nor have art and commerce, during many centuries, united so many small valleys remotely isolated by impenetrable barriers.

Hence upon each river dwells a distinct people, differing from all the rest in race, language, habits, and interests. Though often politically amalgamated by conquest, they again relapse into fragments, from innate geographical incoherence. The history of these nations is a story of perpetual war and mutual extermination.

Exactly similar to Europe, though grander in size and population, is Asia. From the stupendous central barrier of the Himalayas run the four great rivers of China, due east, to discharge themselves beneath the rising sun: toward the south run the rivers of Cochin China, the Ganges and the Indus; toward the west the rivers of the Caspian; and north through Siberia to the Arctic seas, many rivers of the first magnitude.

During fifty centuries, as now, the Alps and Himalaya mountains have proved insuperable barriers to the amalgamation of the nations around their bases, and dwelling in the valleys which radiate from their slopes. The continent of Africa, as far as we know the details of its surface, is, even more than these, split into disjointed fragments. Thus the continents of the old world resemble a bowl placed bottom upwards, which scatters everything poured upon it; whilst northern America, right side up, receives and gathers toward its centre whatever falls within its rim.

Behold, then, the future of America, graven, in the geographical lines and arteries of her symmetrical, ocean-bound expanse! Behold it foretold in the oracular prophecies of past and present progress!

In geography the antithesis of the old world, in society it will be the reverse. Our North America will rapidly attain to a population equalling that of the rest of the world combined; forming a single people, identical in manners, language, customs, and impulses; preserving the same civilization, the same religion; imbued with the same opinions, and having the same political liberties.

Of this we have two illustrations now under our eye, the one passing away, the other advancing. The aboriginal Indian race, among whom, from Darien to the Esquimaux, and from Florida to Vancouver's island, exists a perfect identity in their hair, complexion, features, stature, and language; and second, in the instinctive fusion into one language and one new race of immigrant Germans, English, French, and Spanish, whose individuality is obliterated in a single generation.

At this moment, the maritime policy, planned with dark genius, and pursued with scrupulous selfishness, palls our march. Nothing behind us in history at all rivals in rapidity of growth, in wealth, power, and splendor, those states masking the seaboard, and called at home the old thirteen.

Here are cities (and a great number of them) surpassing, at one century old, those of a thousand years upon the old continents.

The states have swelled as fast. This admirable greatness is due to the mastery of the continent which they exercise by majorities in the national councils, to the immense income of revenue which they thus collect and use, and to their monopoly of all foreign commerce.

A new and rival seaboard, a new thirteen, would halve and distribute all of these. It was foreseen how progress, travelling centrally across the continent, was striding point-blank to this consummation. To retard this indefinitely arose the maritime policy, invented by sophistry, and sustained by metaphysics.

Mr Jefferson, having, with consummate prescience, added to our domain the Louisiana purchase, the most splendid portion of the habitable globe, hastened to give it population and a maritime wing to the Pacific. Explorations under Clarke and Lewis, and others, followed by Astor's enterprise, opened forty years ago the great commercial route between the oceans, since shut up by the maritime policy, but now reopened.

These were checked and overthrown by the exigencies of foreign war. That over, the discussion of a route to Asia was revived by the press and in congress. Astor sought to renew his enterprises, and aid was demanded from the government by the people of the west, and by patriotic individuals in the east. This was refused by the policy of President Monroe's administration, in whose cabinet were conjoined J. Q. Adams, of Massachusetts, and J. C. Calhoun, of South Carolina, subtle statesmen of the most penetrating foresight and the loftiest ambition.

Power emigrates as time rolls on. The pride and fascination of its possession linger supremely potent in the human heart. From this profound source has sprung the unequitable maritime policy, arrayed against the march of progress and the westward migration of power.

The former state, Massachusetts, had proclaimed a national war unconstitutional, and initiated at Hartford the preparatory plans to secede from and dissolve the union. The latter, South Carolina, has done the same, pronouncing the general power of taxation unconstitutional in a particular form; and now again appear the same dreadful threats of force and terror, pronouncing unconstitutional a specific legislation for the territories.

Behind this gorgon of alarm, nullification, and unperceived by the general mind, lashed into dismay and distracted by terror and force, threatening the union, the subtle maritime policy has been riveted down. Within the young states the public glebe has been held by the central government and withheld from taxation. Thus is state revenue cut off.

These public lands are held at a tyrannical price, the sales made cash, donations of homestead rights, preëmption, and graduation refused. Savages, ejected from the older states, have been bought up and planted as a wall along the western frontier and across the line of progress. These are metaphysically called foreign nations.

Recently there has been given to the soldiers of the nation a bounty of $100 in money, or $200 in land. This is legislative declaration that the price is 100 per cent above their highest value.

The revenue raised from the customs is collected at the seaports, where the expenses of collection are disbursed. The heavy part of this revenue is paid by the agriculturists of the west, who are the consumers; $3,000,000 annually of direct land revenue is exclusively paid by these latter.

But where is this splendid income of $40,000,000, thus levied for the most part from western industry, expended? To the navy is devoted $9,000,000 (all upon the tide-waters of the seaboard). To the civil list $5,000,000—all there also. To seaboard improvements, viz., custom-houses, mints, harbors, breakwaters, fortifications, navy-yards, light-houses, coast survey, post-offices, armories, etc., $2,500,000. All this, too, is upon the tide-water.

To the army $5,000,000; this is expended on a military academy, ordnance foundries, four artillery regiments, engineers, all upon the seaboard. True it is that a few stingy details of cavalry and infantry are posted in shanties upon the western frontier, and a largess of half a million sowed among the Indians. But the single fortress of Old Point Comfort has cost more than the sum total of western military structures.

Thus do we come at one cardinal item of maritime power, $40,000,000 collected annually from thirty states, of which $39,000,000 is annually paid out to thirteen only. Such is the income which maritime policy secures to itself by taxation.

Further, the foreign exports and imports amount to $350,000,000 per annum; every pound of this leaves our shores or comes to us in the ships of these maritime states, and is stored at their seaports. To them, then, belongs the complete and prodigious monopoly of the carrying trade of America.

Is it wonderful, then, that a policy should have been projected with foresight and pursued with obstinate will to preserve to its possessors an income so splendid and a monopoly of such infinite profit? With these maritime states, too, rests the political mastery of the continent; because they have as yet always had the majority of the houses of congress, and still retain that in the house of representatives, in spite of the accession of Texas, Iowa, and Wisconsin, which have changed the senate.

It is the decennial census of 1850 which will give in the 33d congress a majority to this great indigenous American people, residing within the mountains, in the great basins of the continent. To them will belong the glorious task to give to the public domain its true, patriotic use, and root out the scorching tyranny of which it is now the engine.

To make taxation and the expenditures of revenue national and equal among the states and people. To pay, not grind, the pioneers. To reverse the uses of the national wilderness, so that its glebe shall be the beneficent fountain of great roads, unlimited agriculture, population, commerce, and rich states. To give us maritime rivalry, and a new seaboard. To reconcile the white man and the Indian, now kept by infamous laws in a state of implacable feuds and mutual piracy.

It is very wicked that our government, being republican, has ravished republican liberty and rights from the Indian, and reënacted for his race all the odious inequalities and oppressions of feudality.

The set purpose of maritime policy to crush progress developed itself with the admission into the union of Missouri, a state beyond the Mississippi, and salient upon the routes and rivers toward the Pacific.

A wall of Indians was planted along the frontier from the Missouri to the Red river. These foreign nations were planted upon soil which they could not sell. Commerce was prohibited, and the white man forbidden entrance under penitentiary imprisonment. The army, its duties reversed, was withdrawn from danger, and planted on the line to bayonet back the pioneers.

By these nefarious sophistries it was designed to fence across the pioneer army in front. Hush-money to the amount of $85,000,000 was paid to get these Indians out of the older states for the use of the frontier. In combination with this it was necessary to gain a maritime extension, and the national purse was opened. A couple of thousand Indians were discovered in the pocket of east Florida, the Seminoles and Mickasukies.

Ten years of terrible war, during which 100,000 military emigrants and $45,000,000 had supplied the material of a state to balance Michigan, brought about a treaty allowing those tribes to remain among the everglades. During this time Indian piracies swarmed over the great plains and upon the commercial roads to Mexico and the mountains. Many hundred whites and innumerable Indians fell beneath the tomahawk. Protection, military police, and revenge were denied at Washington. Not a dollar was here disposable, for these terrors of the wilderness helped the policy which kept it so. The reannexation of Texas was consummated. This was a maritime state, extending the shell of maritime influence farther round the continent. Texas owed debts, some $7,000,000. Her public lands were speciously left to her to pay them—208,000,000 of acres, by valuation $260,000,000, to pay $7,000,000 of debts!

Is it, then, by chance or design that the great domain is to one state the source of imperial revenues and advancement, to another of poverty and repression? Express laws of congress produce these extremes.

To understand this rightly, let us examine it. The soil of Missouri is held, until sold, at $1.25 per acre by the central government. At present $600,000 per annum is extracted in specie through the land-offices. Thus are we impoverished. Two thirds of our soil is withheld from state taxation. As real estate is the substantial source of state revenue, no public enterprises, no geological surveys, no internal improvements, not even highways and bridges, are possible in Missouri.

Our insignificant state and county revenues fall with onerous weight upon less than one third of the glebe lands, upon personal property and licenses. The disastrous wreck suffered by Mississippi, Illinois, and other new states is proof enough of this.

How is this reversed in Texas? An immense domain fills her treasury; she taxes and sells for taxes at will; unlimited credit and resources invite her to construct the greatest works, without danger. By reducing and graduating the price of lands, she invites forth the agriculturists of our states, and warps progress toward the gulf. On the pledge of her public lands she may herself alone procure means to construct a railroad to the Pacific. Across the western frontier is unobstructed access to the 8,000,000 of Mexicans. Western commerce, then, walled in and made piracy in Missouri, crushed and persecuted, must migrate hence to Texas.

Again, war with Mexico arose. This was a land war of armies, between nations having a common frontier of many thousand miles. A single American army of 30,000 cavalry and flying artillery, marching by the magnificent road from Fort Leavenworth, passing by the great table-lands to the city of Mexico, and subsisting their animals of food and transportation upon the pastures, would have conquered and held all the Mexican states in eighteen months.

Forty millions of expenditure would have brought peace on our own dictation, great roads for commerce would have been established forever, and the disbursements returned to us in the ceded territory. A war thus economically conducted, however, would have opened the avenue and planted central states to the new seaboard.

But fleets of transports must plough the gulf, and the maritime states of Jacinto and Sierra Madre extend to embrace Tampico. One hundred thousand soldiers were sent to the impracticable entrance by Saltillo and Potosí—one hundred millions expended upon this army, which, stagnating upon the waters of the Rio Grande, never passed beyond them; for Saltillo is upon an affluent of the Rio Grande, and only 250 miles from its main bank. Thus was profligately reënacted the drama of the state of Florida.

The maritime policy blends the double object of blocking up the interior and extending the seaboard in a shell around the continent. For this the navy is enormously increased and the army emasculated. Enterprises in the central states are marred, but those of the seaboard sustained directly from the national treasury. Of this let us take a recent illustration.

A proposition was submitted to the 29th congress, early in its first session, 1845–6, to carry onward to the coast of California and Oregon, and to Santa Fé, monthly, the mail which comes tri-weekly to our city of Independence.

A law authorizing the postmaster-general to let the contract for such an extended mail route to the lowest bidder, in the ordinary way, was alone required. Contractors were ready to execute the whole undertaking for $50,000 per annum, carrying the mails in fifteen days, making the time from ocean to ocean twenty-five days.

This proposition, admirable for its practicability, its economy in time and cost, was belabored by orators and suppressed. To this hour all overland mails are prohibited by statute.

At this same session of this same congress, and under the promptings of these orators, the government was, by statute, made the partner with ship-building companies of New York city. To construct four mail steamers, the sum of $1,250,000 was advanced to these companies, to whom was also given the monopoly of future government transportation for ten years.

The transportation of our mails through the isthmus is confided to the Spaniards of New Granada. All this enormous expenditure has produced at the end of four years an uncertain monthly mail outside of our country—and exposed to the hostilities of the whole world—which traverses 9,000 miles of sterile ocean in fifty days. In the interval the contracts have been doubled in amount by doubling the size and cost of the ships. It is a condition of these contracts that these mail steamers may be appraised and purchased by government for the navy. Thus is the navy clandestinely increased by eight or a dozen war steamers.

Thus whilst we may transport the domestic mails between our distant people and seaboards through the heart of our territories, every inch upon our own soil, and 1,000 miles from any foreign foe or frontier; whilst this can be done and is offered to be done by our citizens for prices at which the mails will yield remunerating revenues; whilst this admits of an increase to daily mails at any time, and a reduction of time to one half; whilst this allows of innumerable way-mails, telegraphs, and the most intimate domestic intercourse; involves neither increase of military force nor expenditures by sea or land, and avoids the possibility of foreign interference or molestation; opening roads and crowding them with population and settlements; concentrating to the seaport where it reaches the Pacific the American shipping and business on that ocean, at once creating a great American emporium.

Instead of all this, which is sensible and natural, and understood by our people, whose cardinal right it is to have the circulation of their domestic thoughts and business through home channels which are short, safe, and expedious—yes, instead of this, we are taxed millions to have our letters sent 9,000 miles in fifty days, under the equator, by sea, through foreign nations, exposed to delay, dangers, and destruction in every form, ruffling the jealousies of rival nations, and exposed to their cannon, and all this to fill the maws of maritime speculators and political ambition.

Such are a few examples of a policy hourly influencing our glorious state for weal or woe, whose effect upon you, my fellow-citizens, fills me with the most puzzling astonishment. You drop your own interests with facility when told they are difficult and inexpedient, and stand at ease, whilst rival enterprises, planned to destroy you, and a thousand times more difficult, costly, and fanciful, are finished completely.

Mr Chairman, eloquence is not nurtured in the depths of the silent wilderness, and there have I passed my youth. Did I possess those graces of language and polished elocution which many youths, my contemporaries, trained in the courts and halls of legislation, ought to do, then should my voice sound, like the rappel beat on John de Zitzka's skin, into every cabin of our glorious state; to call forth her citizens, and, roused from their ignoble apathy, animate them to resume their stolen rights and vindicate their crippled honor. For this apathy is, toward this our state and our nation, the crime of the sentinel slumbering on his post.

The configuration of the Sierra Madre, the mother mountain of the world, is transcendently massive and sublime. Rising from a basement whose roots spread out two thousand miles and more, its crest splits almost centrally the northern continent, and divides its waters to the two oceans.

Novel terms have been introduced to define its characteristics. Mesa expresses the level plateaux of its summits. Cañon, the gorges rent in its slopes by the descending rivers. Bute, the conical mountains isolated and trimmed into symmetrical peaks by atmospheric corrosion.

Everybody has seen the card houses built by children in the nursery. Suppose three of these in a row, having a second story over the centre: this toy familiarly delineates a transverse section of the Sierra Madre. This upper story represents the central, primary mesa of the cordillera—its summit a great plain, descending on both flanks by a perpendicular wall of 6,000 feet to the level of the second mesa, or steppe.

Toward the west the second mesa fills the whole space to the Andes, whose farther side descends abruptly to the tide-level of the Pacific. This is again what has been before described at length as the great table-lands. But toward the east, the second mesa forms a piedmont, rent into peaks by the fissures of innumerable streams.

This piedmont, called by us the Black hills, masks the front of the Sierra Madre from end to end. So completely is it torn and rent by the perplexity of watercourses, that patches alone are left to define the original plateau. These are the eastern envelope of the basin of the Yellowstone, the Laramie plain, between the Plattes, the Ratone, and the llano estacado of Texas.

Beneath this the third mesa, or steppe, is that superlative region, the great prairie plains, whose gentle slope forms a glacis to the gulf through Texas; and in front to the trough formed by the Mississippi river from Itasca lake to the Balize. Neither are the other three basins of the St Lawrence, Hudson bay, and Athabasca anything else but prolongations of this same glacis sloping toward the east and north.

It is this vastness of geographical configuration which leads the glance of the engineer with unerring certainty to that line of natural grades from ocean to ocean, the discovery of which mankind now awaits with the keenest curiosity, and along which the American nation is resolved to construct the consummate work of art, the Asiatic and European railway.

Advancing north along the comb of the Sierra Madre from below Mexico, you find at the sources of the Platte (Sweetwater) a wide gap, where, the high mesa suddenly giving out for the space of forty miles, the second mesa passes through from east to west, the continued water-ridge being scarcely perceptible among its gentle undulations.

This is the South pass. It is so named as being the most southern pass to which you may ascend by an affluent of the Atlantic, and step immediately over onto a stream descending directly to the Pacific. This name is as ancient as the use by white men of the pass itself.

Into it concentrate the great trails of the buffalo, geographers and road-makers by instinct, before the coming of man. The Indian, the Mexican, and the American, successors of one another, have not improved or deflected from the instincts of the buffalo, nor will they whilst the mountains last in their present unshattered bulk.

The South pass has a towering grandeur, in keeping with the rivers between which it is the avenue, the Missouri, the

Colorado, and the Columbia, all of which, issuing from the wall of the Wind River mountain, come out of it onto the second mesa, at the same level, and into which they immediately commence burrowing their cañons of descent to the seas.

Here, then, is the route, the southern route, of the national railroad, ascending by the water-grade of the Platte onto the top of the second mesa, where it forms the summit, following the level of this mesa along the base of the high mesa, to the Columbia (Snake river), and descending its water-grade clear out to the Pacific.

The distance from the Platte to the Columbia has not been accurately ascertained, though by the present wagon-road, which crosses a corner of the salt basin, it is less than 300 miles. Here is that double incline plane, to find which has been the first essential in every work of art existing in the world.

There is none south of this, because everywhere the basins of the table-lands overlap and envelop one another, so that the passes lead merely from one of these into another; nor are there any natural tunnels through the precipitous walls of the Andes, and between the basins.

The Columbia, running across the table-lands from east to west, distributes the descent of 8,500 feet equally along its course of 1,200 miles, and tunnels the great ranges of Blue mountains and the Andes. This whole course of the river is a continuity of rapids, having three falls—the American falls of 30 feet, at Portneuf, the Salmon falls of 45 feet, 200 miles below, and the Chuttes of 12 feet, near the Dalles.

This river-grade is then as rapid as the descent to be accomplished will admit of; for, distributed into long levels and steep grades, it would immensely impair the utility of the whole work, and fatally impede transportation.

The great Colorado runs diagonally across the table-lands, debouching into the gulf of California, but has its course and those of its great affluents parallel with the mountain ranges, which are scored with unfathomed cañons, perplexing the traveller with an infinity of impassable ridges, among which the watercourses are embowelled.

North of the South pass, however, exist many single passes where the higher branches of the Missouri and Columbia interlock. These circuitous routes have all the same termini as that of the South pass, for they also descend the same two rivers to the seas. Thus between the South pass and the isthmus of Tehuantepec there exists no railroad route, owing to the longitudinal courses of the rivers, the complexity of the basins, and the double barrier of primary mountain chains.

To the north, other passes exist, which future generations may develop, and on which navigation may be used for four fifths of the whole distance. True it is that potential fashion now exalts the little maritime basin of California, San Francisco bay, into the haven of hope and fortune of the new seaboard, whilst the sublime basin of the Columbia, and its magnificent river harbor, are banished from public favor.

The basin of San Francisco is small, tropical in climate, sterile, and the most isolated spot to reach from the interior on the whole coast of the Pacific. No great river gives it access to the Mississippi valley, from which it is cut off by the basins of the Salt lake, the Colorado, and the Del Norte overlapping each other.

The Columbia is larger than the Danube, and equal to the Ganges. In size, climate, agricultural excellence, capacity for population, and its wonderful circular configuration, the basin of the Columbia surpasses both of these others.

The mouth of the Columbia, a salient point upon the open coast, more than any other central and convenient to the whole north Pacific and Asia, is in size, depth of water, safety and facility of ingress and egress equal to San Francisco. As the mouth of the greatest river descending from our continent into the Pacific, it is infinitely before it. It is eight degrees south of Liverpool, having the climate of Bordeaux, Marseilles, or Savannah.

Why is not the deep-sea navigation concentrated at Norfolk or Hampton roads, the finest harbor of the whole Atlantic? Why, rather, is it found at New York and New Orleans, accessible only through every danger that can menace shipping? Why, because the former is the outlet of the basin of the St. Lawrence, the latter of the Mississippi. The shipping of commerce goes to where cargoes can be found.

Less than fifty years ago, fashion pronounced the little ravines of James river and the Connecticut the proud spots of America, and held the great uninhabitable wastes of the Mississippi and its unnavigated streams as worthy only to balance codfish. This same splenetic spirit of fashion now manufactures a similarly ridiculous misdirection for the energy of the pioneers, by setting up what the geologist would call a pot-hole of the Andes against the grand Columbia.

Commerce, provident like every other department of industry, makes herself harbors with charts, pilots, buoys, and beacons. The shallowest channel of the Columbia has thirty-five feet of water; the deepest of New York, twenty nine feet.

Climate distinctly controls the migrations of the human race, which has steadily adhered to an isothermal line around the world. The extremely mild climate of our western seaboard is only the consequence of the same great laws of nature which operate in western Europe. These are the regular and fixed ordinances of the code of nature, to which the migrations of man, in common with the animal, yield an instinctive obedience. Within the torrid zone, and up to 30° of the northern hemisphere, blow the trade-winds and variables constantly from the east and northeast all around the world; but the upper halves of elliptical orbits followed by the winds lie in the temperate zone, from 35° to 60°, within which the winds flow constantly from the west and southwest all around the world.

These winds reach the western coasts of America and Europe after traversing the expanse of the Pacific and Atlantic oceans. Warmed to the same temperature as these oceans, they impart again this same mild atmosphere to the maritime fronts of the continents which receive them. These same winds, passing onward over great extensions of continent of low temperature, covered with snow, or frozen during winter, often warped upward by mountain ranges, becoming exhausted of their warmth, have upon the eastern portions of both hemispheres an exactly opposite effect upon the climate.

Hence the variant temperature of New York and Lisbon, which face one another on the opposite coasts of the Atlantic; of Pekin and San Francisco, similarly opposite upon the Pacific. At San Francisco and Lisbon the seasons are but modulations of one continuous summer. At New York and Pekin, winter suspends vegetation during seven months, whilst ice and snow bridge the land and waters. These four cities are all close upon the same parallel of latitude, the 40th degree.

It is here manifest how in Asia the masses of population lie below the 40th degree, in Europe above, and again, so far, in America, curving downward on the eastern face of our continent, to rise again to the north upon the warm coast of the Pacific.

Thus has the zodaic of nations, our own nation similarly with the rest, pursued a serpentine line of equal temperature, retaining all around the world similar employments, similar industrial pursuits, similar food and clothing, requiring similarity of climate, and recoiling alike from the torrid and the arctic zones.

The scientific men of the nation oppose the national railroad; so did those of Europe persecute Galileo and Columbus. Science, like the army and navy, is fed from the national revenues, which maritime policy distributes to all that serve its ends. Science is rare; the spurious quackery of science redundant. It is not the scientific doctors of the schools, the bureaus and military wings of government, that have hewed out this republican empire from the wilderness.

This has been reared by the genuine heroism and sublime instincts of the pioneer army, unpaid, unblessed, nay, scoffed and loaded with burdens by government and its swarm of dependents. To bridle progress has been the policy of thirty years; to keep the people out of the wilderness; to refuse territorial governments, and prevent territories from becoming states.

At this moment scientific men are especially busy distracting us with multitudinous routes and invented difficulties, devised to perplex and scatter the energies of the citizens, whose unanimous resolve it is to plough open a great central trail to the Pacific.

Science cannot unmake the eternal ordinances of nature and reset the universe to suit local fancies and idle fashion. It is the humble duty of science to investigate nature as she is, and promulgate the truths discoverable, for the guidance of governments and men.

The experience gained from the great works constructed by the last generation in digging through the Alleghanies routes for commerce to the Atlantic settles for us the rules that shall guide us across the Sierra Madre to the Pacific.

In 1818 the state of New York cut through the low and narrow ridge between Rome and Syracuse, the former on an affluent of the Hudson, the latter of Lake Ontario. Thus the first expenditures, perforating the dividing mountain, let through that infant commerce which, in thirty years, has grown to such a grandeur of quantity and profit that this great thoroughfare is itself quadrupled in capacity and lengthened out to Montreal, to Boston, to New York city, and into Pennsylvania, toward the east.

Westward, it reaches through Ohio and Indiana to the Ohio river, and by the Illinois and Wisconsin rivers to the Missouri and Mississippi.

What the single state of New York, of 1,200,000 population, accomplished by her own intrinsic bravery and resources, undismayed by ridicule and unappalled by the then experimental character of such works in a republic and upon our continent—just such a work now invites the national bravery, power, and wealth of this imperial republic, namely, to lay, over the dividing barrier of the Sierra Madre, along the floor of its natural tunnel at the South pass, an iron pathway, which, descending the grades of the Platte and Columbia to the highest points of navigation, shall let through the first infant stream of that supreme oriental commerce, whose annually expanding flood will, during our generation, elongate its arms and fingers through all the states, and to every harbor of the two seaboards.

Climate, the configuration of the continent, the location of our states and people, the isothermal line of progress, the high latitudes of the ultra-oceanic nations, here locate the national railroad. The climate is here most favorable, because the whole region from the Missouri to the Columbia, far removed from any ocean, is so dry as to be free from rains in summer and snows in winter.

Thus the snows within the South pass itself are not so deep as upon the St Lawrence, or between Boston and Buffalo. Upon the Wind River mountain there is no snow in summer, at an altitude where it is perpetual on the Andes beneath the equator and near the ocean.

On the table-lands rain and snow are so rare that they may be said never to occur. This obstruction, then, stated on theory to be fatal, has no existence, whilst this route, pursuing great rivers all the way, has abundance of water. Mineral coal is abundant from end to end; lumber and rock infinite in quantity and convenient in position.

It is, then, I repeat, through the heart of our territories, our population, our states, our farms and habitations, that we need this broad current of commerce, where passengers and cargo may, at any time or place, embark upon or leave the vehicles of transportation.

It is foul treason to banish it from the land, from among the people, to force it on to the barren ocean, outside of society, through foreign nations, into the torrid heats and along solitary circuitous routes, imprisoned for months in great ships.

This central railroad is an essential domestic institution, more powerful and permanent than law or popular consent, to thoroughly complete the great systems of fluvial arteries which fraternize us into one people, to bind the two seaboards to this one nation, like ears to the human head, to radicate the foundations of the union so broad and deep, and render its structute so solid, that no possible force or stratagem can shake its permanence, and to secure such scope and space to progress that prosperity and equality shall never be impaired or chafe for want of room.

What, sirs, are these populous empires of Japan and China now become our neighbors? They are most ancient, the most highly civilized, the most polished of the earth.

It was from Sinim, China, that the Judean king Solomon imported the architects, the mechanics, the furniture, of his gorgeous temple. Hence the Tyrians brought tapestry, carpets, shawls of wool, cotton and silk fabrics, wares of porcelain and metals, dyes, gums, and spices, jewels polished and set.

Hence came the climax of all human inventions, letters and figures, which fix language and numbers, making them eternal;

astronomy, arithmetic, algebra, decimals, chemistry, printing, navigation, agriculture, and horticulture.

All these, erroneously ascribed as the inventions of the Arabs or to the exiles of Constantinople, who brought them into western Europe, are the creations of oriental genius and study.

Tea, sugar, the peach produced from the wild almond, the orange from the sour lime, the apple from the crab, the fruits, the flowers, the vegetables of our gardens, are the creations of Chinese horticultural science.

The horse, cattle, the swine and poultry of our farms come to us from thence. The culture of the cereal grains, wheat, rice, barley-bread, wine, the olive and silk, have come to us from the farthest orient. Hence also came gunpowder, the magnetic needle, and calomel. The paints, varnish, and tools of the art have come, and the remedies used in pharmacy.

Our historic records, commencing with the arrival of progressive civilization at the extremity of the Mediterranean, relate from tradition the antique empire ot Bacchus and the religion of Zoroaster upon the Ganges and the Indus. The Chaldeans of the Persian sea followed. Fleets came from the extreme orient into the Bengal sea, the Persian gulf, and the Red sea; and caravans overland by the Oxus and the Caspian brought the camel, the horse, cattle, manufactured wool, silks, cotton, and metals, agriculture, commerce, and coin.

Empires expanding westward along the Ganges, the Euphrates, and the Nile reached to the Mediterranean and Euxine. From Egypt, Phœnicia, and Colchis (Trebisond), sprang European Greece.

Such as progress is to-day, the same has it been for ten thousand years. It is the stream of the human race flowing from the east to the west, impelled by the same divine instinct that pervades creation. By this track comes the sun diurnally to cheer the world. Thus come the tides of men and of the waters, learning, law, religion, the plague, the small-pox, and the cholera—the sources of life and happiness; the pestilence that saddens both.

These empires of which we have spoken have left upon the ground they occupied their names, political society, their organized systems of government, and religion. Does not society, then, once founded become perennial? It is within a belt of the earth straddling the 40th degree of north latitude that the greatest mass of land surrounds the world, and where the continents most nearly approach.

Within this belt, from 30° to 50°, four fifths of the human race is assembled, and here the civilized nations of whom we possess any history have succeeded one another, commencing at the farthest extremity of Asia, and forming a zodiac towards the setting sun.

This succession has flowed onward in an even course, undulating along an isothermal line, until in our time the ring is about to close around the earth's circumference, by the arrival of the American nation on the coast of the Pacific, which looks over on to Asia.

In this age and in this march of human race, as elsewhere, the bold, energetic, and indomitable, the picked spirits of the world, lead the van; and such is the pioneer army.

What means that expression in the declaration of independence, life, liberty, and the pursuit of happiness? What brought the cavaliers to Virginia in 1608? It was the pursuit of happiness. What animated the pilgrims to endure the rigors of Plymouth rock? Why, the pursuit of happiness. What sought Boone and his companions, plunging a thousand miles into the wilderness? This same pursuit of happiness. What secret motive now brings foreigners to our shores, and impels our own citizen onward to the Pacific? Again, it is the pursuit of happiness.

Progress, then, is one of the immortal rights sanctified in the charter of human liberty. Why, then, is advent into the wilderness, the field for the discontented, the oppressed, the needy, the restless, the ambitious, and the virtuous, thus closed by a policy at once sinister, nefarious, and unconstitutional?

Unquiet for our sacred union is this present time, when political power, about to cross the Alleghanies, see-saws on their crests, counting the days that precede her eternal transit over them.

It is by the rapid propagation of new states, the immediate occupation of the broad platform of the continent, the aggregation of the Pacific ocean and Asiatic commerce, that inquietude will be swallowed up, and the murmurs of discontent lost in the onward sound of advancement. Discontent, distanced, will die out.

The immense wants of the Pacific will draw off, over the western outlets, the over-teeming crops of the Mississippi valley. Thus will the present seaboard states resume again their once profitable monopoly of the European market, relieved from the competition of the interior states.

The cotton and rice culture of Georgia and the Carolinas will revive. The tobacco of Virginia and Maryland will again alone reach Europe. Ships withdrawn from the northern states to the Pacific will regenerate the noble business of nautical construction in New England and New York.

The established domestic manufactures of clothing and metals will find, in our great home extension, that protection which they in vain seek to create by unequal legislation, nocuous and impracticable in our present incomplete and unbalanced geographical form. Thus, calmly weighed and liberally appreciated, does this great central railroad minister to the interests and invite the advocacy and coöperation of every section of our territory, and every citizen of our common country.

The exclusion of foreigners from Japan, China, and Cochin China is not then an institution of barbarism, but a domestic tariff of protection. It is designed, like the combination of Christian nations against piracy, to protect their nationality and freedom against those fierce military nations of northmen, who for twenty centuries have rent Europe and western Asia with perpetual massacre, who ransack all the seas in their war-ships, store the rocks of the ocean with munitions of war, crush the millions of India with cannon and the bayonet, plunder Africa of a million annually of her swarthy children to rot in foreign slavery, and even exterminate one another in deadly strife when they meet among the antipodes, in the solitudes of the southern ocean.

When, however, our diplomacy shall receive a wise direction; when our foolish nepotism to Europe shall be run out; when men of sense, such as Franklin was of old, shall sail over from Astoria to Pekin, and there converse with the oriental court, of republican America as she is; when her civic growth and pacific policy shall be there understood; when the central position of our continent shall be known, forming the avenue for trade and barrier against war with the northmen of Europe—then will mutual confidence between these, the oldest and youngest of the human family, the extremes met, show itself in the graces of a free commerce, and the ties of an harmonious fraternity.

It is for you especially, people of Missouri, to seek these new relations with the oriental people, with the zeal of faith and the fixed will of conviction. It is arch mockery for us to be duped by the flippant caricatures of these ancient and polished Asiatics, invented by British envy to mislead us, and fed out to us by the British press to cloak sinister designs of subjugation and world-wide plunder.

Rather let us take alarm at the tone and source of this monstrous flood of calumny, and know that a direct inspection for ourselves will reveal to us, in Asia, empires of people illustrous for their antique civilization, rendered enduring and perfect by political equality and wise civic institutions, winnowed and renovated during fifty centuries of uninterrupted experience—among whom the science and art of war, indeed, are decayed from long disuse, but all useful sciences highly perfected—with whom government has reached the mildest form of patriarchal despctism, eliminating political priestcraft and the disseminated tyranny of a patrician order, who have so admirably refined and perfected municipal government and police that 400,000,000 of population, double that of all Europe, are united under one harmonious political system in concord and tranquillity.

It is among these swarming hives of ingenious people that we will find markets on a scale commensurate with our own prolific industry.

This is not now the case in Europe. The Europeans are in all things our rivals and competitors. Are we agriculturists? So are they, and wall off our competition with corn-law tariffs. Are we miners and manufacturers? So are they, and overtop us by abundance of labor and capital. Are we ship-owners? So are they, having an immense marine cheaply navigated. They conquer and colonize foreign countries, of whose trade they make monopolies. They are northern nations, whose clothing is of wood and flax, consuming a very limited amount of cotton.

What they take from us is to manufacture for exportation. Tobacco is prohibited; hemp and metals they export. The population of Europe is 205,000,000; of the Atlantic all round, 253,000,000.

On the Pacific, in front of us, are 400,000,000 people of the tropics, Polynesians, South Americans, southern Asiatics, among whom wheat is not cultivated, and animal food, other than fish and poultry, very scarce. Their clothing is exclusively cloth of cotton, grass, and silk. Opium is excessively used among them. Rice, the plantain, banana, and fruits are their unsubstantial diet.

Here, then, will be the market for raw and manufactured cotton. Here our rank manufactured tobacco will substitute itself for opium. Here our substantial articles of food, flour, meats, and fish will find purchasers in all who eat. Lead and hemp will be sold.

In return will come to us groceries, spices, teas, coffee, sugar; porcelain, Japan ware, furniture, works in ivory; drugs, paints, dyes, medicines; beautiful fabrics of silk, satin, velvet, crapes; nankeens, the delicate shawls of Cashmere, the carpets of Persia; jewelry, trinkets, and toys; the hemp of Manilla; luscious fruits dried and preserved.

The people of the Pacific have no marine adapted to cross the great ocean, the carrying to and fro will be in our ships, and a monopoly to us, ship-building and navigation will occupy our people of the new seaboard, and the metals, lumber, and hemp of the interior find a prodigious demand. The population of the Pacific all round exceeds 645,000,000.

Will not, then, our people find in this that certain panacea of all their wants and wishes, namely, an infinite market of consumption? Surely this people, which has submitted to the nostrums of political quackery, tariffs of protection, banks to make money plenty, home manufactures and systems of internal improvement, all invented to create markets at home by changing our producing agriculturists into consuming operatives, but all of which little experiments have produced industrial anarchy and commercial bankruptcy.

Surely this people will not hesitate to construct for themselves this great national highway, at small comparative cost, and leading as level as a cannon to its blank, to a new ocean, teeming with 645,000,000 of people of wants unlimited, and having a genius active, intelligent, and commercial. To effcet this, it is only necessary to untrammel progress from the snares and dead-falls of maritime policy; to reopen the legitimate onward trail of the pioneer army, and reinvigorate its march. The cause of the pioneers at this hour preeminently demands the undivided energies of Missouri. It is for us that the pioneer army is now conquering the vast wilderness that hems in our commerce and blocks the frontier; for us it throws down the perfidious Indian wall, reopens the central trail of advancement so long insidiously closed—and to us, for us, it reëstablishes that crowning excellence of position of which hostile policy has for thirty years bereft us.

It is not ambition that impels us, citizens of Missouri, to advance to the advocacy of this great work with our whole unshackled energies; it is high religious duty.

Central to the continent, to its internal navigation, to its states, to its commerce, and to its variety of agriculture, neutral to all sectional antipathies, and the converging heart of all interests, we must occupy this central position with power and dignity equal to its importance; with a strength of grasp and intensity of enterprise to cope with the tallest exigencies.

Let us appreciate this, and stand up to the work with hearts of controversy and sinews of endurance, that the fame of our glorious state, sallying forth from her seat in the centre, may resound in and outward all round from the centre to the circumfluent oceans.

Observe the foreign commerce of America, and the splendid marine which it sustains. This has grown up in two hundred years. But compare with it the commerce and navigation of the interior, grown up in less than forty years, for such is the age of steam navigation on the rivers and lakes.

The latter already equals the former, for it transports internally what is consumed at home, as well as what is collected at the seaports for exportation. Thus, St Louis, in the amount of tonnage arriving and departing annually, is the fourth city of the union, ranking next to Boston.

Indefinitely grand is this domestic, internal commerce. Let us compare the two. The commerce between New York and Liverpool, 3,500 miles asunder, requires powerful vessels of great size and strength to carry much, and resist the storms of the ocean. The intervening space is a desert waste of salt water. A vessel of 600 tons must be filled with cargo before her departure, to make so long a voyage profitable. She goes to Liverpool and back, sails 3,500 miles, touches only two points of land, and carries two loads; four months of time at least is consumed in this. Such are the voyages of ocean commerce—expensive, dilatory, and full of dangers.

Compare with this the river voyage. From Pittsburg or New Orleans to Fort Union, the distance is 3,500 miles, by the Ohio and Missouri rivers; a steamer of 600 tons, cheaply constructed and navigated, performs the voyage to and fro, with perfect safety, in two and a half months, and absolutely without danger, along a continuous river channel.

This channel has a double bank, so that this vessel coasts along a shore of 14,000 miles, at any square rod of which she may take in and discharge passengers and cargo. Thus it is possible that no single passenger or cargo remains on board over 100 miles, and yet the vessel is full throughout the voyage. These same advantages belong to railroads traversing populous countries. Such is our internal navigation, cheap, expeditious, and absolutely without danger.

Now, the circuitous seaboard surrounding the Atlantic may be estimated at 69,000 miles, with harbors indenting it; but small vessels cannot navigate the broad sea, nor large vessels enter all the harbors.

On the other hand, within the united basins of the St Lawrence and Mississippi is a continuous river navigation for 45,000 miles, having a double bank, or 90,000 miles of coast, the whole extent of which may be visited by the same steamer, which can land anywhere.

Such is one illustration of the supremely beneficent formation of this great interior basin, of which our own state occupies the centre and focus. Let a railroad from the Missouri elongate this to the Pacific, carrying population clear up all the rivers to their sources and down those beyond the Sierra, and behold the greatness of an internal commerce.

Everybody is acquainted with the commercial intercourse between the continents which fringe the Atlantic; the life, the vivacity, the grand energies which resound upon its buoyant waves. All this is the result of the discovery of America and its population with European stock; hence all this has its growth.

Antiquity had for its field the Mediterranean, and galleys sufficed. This was commerce in its infancy, confined to the nursery and content with toys. Since Columbus, America has become greater than the Europe of Columbus; and as this period has expanded the field of human activity from the Mediterranean to the Atlantic and Mediterranean, from western Europe to America and Europe, blending all this vast space under one international relationship, so now we advance to consummate the blending of the Pacific with these other seas; Asia with these other continents; and urge to its goal that expanding progression which marches on to complete the zodiac of the globe, and blend into bonds of confraternity all the continents, all the seas, and all the nations.

In the vast region of northwestern Texas, traversed by the rivers Brazos, Trinity, Rio Roxo, Canadian, Arkansas, and Del Norte, exists a fertile region much larger than France, the dryness of whose climate, whose red soils impregnated with the sulphate of lime (plaster), and whose altitude present in perfect combination the qualities for the cultivation of the grape and the production of wines.

These rivers all have their sources in prodigious mountains of plaster, from which the red tinge and the fertility of their valleys below is derived. Natural vineyards, covering millions of acres, and annually pruned down by the nibbling herds of buffalo and antelope, here now yearly waste an infinite vintage.

This has already become known to the German pioneers of Texas, and soon will be seen rising a vine culture, rivalling in national importance the cotton culture, the tobacco crop, and even the production of provisions. Then, too, will be seen the universal consumption of mild and healthy wines by our people, and the gay and exhilarating spirits which generous wines inspire will transpose the fell passions and fiery madness of alcohol.

Again, the region of gold and precious metals and stones is not limited, but is absolutely infinite. It is over the whole extent of that primary and volcanic formation extending from the antarctic to the arctic extremities of America, including in its expanse the Andes of South and North America, the Sierra Madre, and the table-lands.

This abundance of the material of coin, wrought and developed by sober American industry, is to the human race the supremest gift of divine beneficence.

Has not the American cotton culture obliterated harsh aristocratic distinctions in dress, and thus democratized the costume of society over the world? What cotton has done for equality in dress, the same will gold effect for individual equality in property and physical comforts.

Study how the stiff, icy servitude of European feudal times has melted since the conquests of Cortés and Pizarro opened the sources from which portable personal property has exalted itself above fixed and immutable glebe land.

Beyond the Sierra Madre, upon the great table-lands, is a parallel vein of thin mountains, whose masses consist of rock-salt. As streams elsewhere bring down gravel and soil, so here they liquefy the rocks down which they descend, and reaching the small inland seas and lakes, yield it again in the crystalline coverings which pave their bowls.

In another parallel vein is a continuous line of plaster mountains. In another, a continuous line of thermal and medicinal springs, some of which are the first appearance above ground of subterranean rivers, having flowed hundreds of miles under plains of lava.

Secondary basins of great size abound, having freestone, marble, and coal formations, iron, lead, and the metals of the arts. All forms, indeed, into which geology classifies matter here follow one another in appropriate positions and proportions, with the regularity of the stripes of the rainbow, the whole deriving prominence and distinctness of detail from the immensity of the general scale.

Thus, instead of inferiority in abundance and variety of things used by and useful to man, it is here that they especially abound in variety, good quality, and vastness. Across all these must pass any highway connecting the two oceans, distributing outward the infinite natural resources of this intermontane world.

No other portion of the world will better accommodate a dense population than these table-lands, on which, farther south, is the chief population of Mexico. In the dryness and salubrity of its climate, its extraordinary pastoral excellence, and its mineral wealth, are the equivalents of the richer lands, but uncertain seasons and health of countries of less altitude. Its intermediate position will secure perpetual communication with the seaboards.

An admirable economy of arrangement, given by nature to the industry of our people, points with great power to this central route, which also corresponds to the positions and courses of the great navigable rivers.

In New England, and at the extreme north where winter dwarfs agriculture, there are no planters, but ships are built, owned, and navigated. Here are the marine of America, her sailors.

On the shores of the gulf, and where southern warmth invites men to agriculture, no ships are built, owned, or navigated; the people here plant and produce cargoes for the ships of the north; not a native sailor is found in these countries.

Between these, occupying a broad central belt, are the farmers, producers of food. These latter equal in number the other two combined. The farmer recoils from a southern sun, where heat forbids labor, and where the culture of wheat and swine languishes; in like manner he recoils from the long winter of the north, where cattle and Indian corn cease to yield abundantly.

It is this central farming population which feed the commercial people of the north and the planting people of the south, and support themselves and furnish for export. They precede all other occupants, and head the movement into the wilderness, where the first requisites are food and transportation. Yet it is among the farming population that domestic commerce finds its great volume of employments, and among them are required, first and chiefly, the great channels of trade which find their termini among the other two.

It is this mass which, stopped by the artificial net-work of maritime policy, is now rushing through and tearing its meshes from their fastenings. In resuming their ancient vigor, concentrated by long restraint, they now demand a national railway to the ocean which they seek.

What I have here stated, Mr Chairman and fellow-citizens, of geographical facts, are of my own knowledge, for with the works of Lewis and Clarke, Frémont, Emory, and Humboldt, I have, during six toilsome years of war and exploration, traversed the countries they describe, and the vast intervals between, which they have never visited.

In these wanderings, undertaken of my own will, I have descended the Andes to the Pacific, and returned, crossed and recrossed by many routes all the basins of the table-lands, excepting only that of the city of Mexico, and coasted along the base of the Sierra Madre from 45° to 25°.

This mother range I have crossed and recrossed at six different passes in this long interval, and its supreme grandeur is stamped indelibly in my memory.

What I have said of policy is from the mouths of those eminent statesmen who have contrived it, and those equally eminent who have unsuccessfully opposed it.

I have expressed my convictions very positively, but not immodestly, for in the terrible vastness of these solitudes, nature speaks her iron will from summits of eternal ice, and where she frowns upon our advances, our foolish efforts shrivel into ashes. It is, then, this stern and certain language of nature that I have sought to penetrate, and here struggle to repeat.

Many routes for a national highway, cunningly contrived and speciously reasoned out, are before the people; all these will vanish beneath exact geographical scrutiny, for they violate nature at hap-hazard, with whom human skill must act in unison. This unison is happily attainable, and discussion will reveal it.

Let us, then, understand nature rightly; let us cease from conflict, and further our onward march in unison with her beneficent aid and guidance. This great work must come, and come now, to this generation. No difficulty lies in the enterprise itself but such as will instantly vanish before the concentrated will and energies of the people.

III.

PROCEEDINGS OF A MASS MEETING OF THE CITIZENS OF JACKSON COUNTY, AT INDEPENDENCE, ON THE 5TH OF NOVEMBER, 1849, TO RESPOND TO THE ACTION OF THE GREAT NATIONAL RAILROAD CONVENTION, HELD IN ST LOUIS, ON THE 15TH DAY OF OCTOBER, 1849.

On motion of J. W. Modie, Colonel James Chiles was appointed chairman, and on motion of R. G. Smart, J. R Palmer was appointed secretary.

Colonel William Gilpin was then called upon to address the meeting and explain its object. He responded to the call in a speech which interested and occupied the attention of the meeting for about one hour and a half. In conclusion he moved the appointment of a committee of twelve to write and report to the meeting resolutions responsive to the action of the great convention at St Louis. The motion having been adopted, the chairman appointed as the committee: Colonel William Gilpin, A. Brooking, General S. D. Lucas, Samuel Ralston, Major Robert Rickman, Colonel James M. Cogswell, James Patton, Colonel Oliver Caldwell, R. G. Smart, William R. Singleton, Alexander Collins, and S. H. Woodson.

The committee, after consultation, reported the following resolutions, which were unanimously adopted:

1. *Resolved*, That we heartily and zealously approve of, and concur in, the proceeding of the national railroad convention held at St Louis on the 15th ultimo.

2. *Resolved*, That in the great national work that shall connect the two seaboards of our country, and the interior with the seaboards, we behold an enterprise as universal to the inhabitants of our union as their language, their politics, and their commerce, a bond of unanimous action, and not a bone of contention and strife.

3. *Resolved*, That to the people of the valley of the Mississippi, intimate and direct connection with the seaboards and people of the Pacific is as essential and as interesting as with those of the Atlantic.

4. *Resolved*, That, inasmuch as our people in their natural progressive growth have extended their habitations across the continent and along the western seaboard, it is our duty, and the duty of our government, to give to this new seaboard, fleets, fortifications, and arms for defence, harbors, light-houses, and marine police for the encouragement and protection of commerce and highways, and a military police to confirm and make safe the connection with the interior.

5. *Resolved, further*, That a national railroad from the Mississippi to the Pacific is the most direct, economical, and constitutional means of effecting the above objects.

6. *Resolved*, That, whereas the almighty has placed the territories of the American union in the centre, between Asia and Europe, and the route of the Asiatic and European railway through the heart of our national domain, it is our duty to the human family to prosecute, vigorously, through its new channel, that supreme commerce between the oriental nations and the nations of the Atlantic, which history proves to have existed in all ages, and to be necessary to keep alive comity, science, and civilization among mankind.

7. *Resolved*, That, whereas the people of China, Japan, Polynesia, and southern America now receive from British India agricultural produce, raw and manufactured cotton, indigo, opium, rice, wool, etc., to the amount of $150,000,000 annually, we believe these same people will take from the Americans in preference more than twice this amount of agricultural produce, substituting tobacco for opium, and flour and meats for rice, so soon as the barrier of the Rocky mountains be removed by a national railway.

8. *Resolved*, That, apart from the great benefits which shall accrue to us and the other nations of the Atlantic from this national railway, we regard it as a beneficent domestic work to open to our people access to the immense and glorious domain of the plains, the Sierra Madre, the great table-lands, and the Andes, known to abound in metals, mountains and lakes of salt, mountains of plaster and marble, thermal and medicinal springs, wild cattle, salubrious climates, sulphur, coal, lumber, arable and pastoral lands of the finest quality, and staple productions unlimited in variety and abundance.

9. *Resolved*, That, whereas, during the last thirty years, the generation of our fathers has covered the eastern half of our continent with states, and, commencing with the New York canal in 1818, has everywhere rendered the connection between the valley of the Mississippi and the Atlantic seaboard complete, and carried the commerce of the Atlantic to the grandest development, it is the high and glorious mission and duty of us, their sons and heirs, of the growing generation in like manner to cover the western half of the continent with states, to render complete with great works the connection of the valley of the Mississippi with the Pacific seaboard, and expand upon the Pacific ocean a similarly magnificent commerce.

10. *Resolved*, That we earnestly entreat our fellow-citizens, in all sections of our union, to unite with us in this central domestic work in preference to dissipating the national ener-

gies upon circuitous routes, running near the equator, through foreign countries beyond our control, and certain to involve us in the competitions, the jealousies, and the hostile interests of foreigners and rivals.

11. *Resolved*, That we invite our fellow-citizens throughout the state to assemble in their counties and cities, and join in a general and unanimous response to the St Louis convention, and unite with us in respectfully instructing our representatives and senators in congress to vote for such measures as may be introduced at the coming session of our national legislature to carry out the views embodied in the foregoing resolutions.

12. *Resolved*, That the secretary of this mass meeting forward to each of our representatives and senators in congress a copy of these resolutions.

Mr. George W. Rhoades offered the following resolutions:

1. *Resolved*, That Colonel Gilpin be requested to write out for publication the speech made by him to this meeting to-day.

2. *Resolved*, That the *Missouri Commonwealth*, and all other papers in this state friendly to a project of constructing a national railroad to the Pacific from the valley of the Mississippi, be requested to publish the proceedings of this meeting.

IV.

AN ORATION SPOKEN BY THE HONORABLE WILLIAM GILPIN, TO THE GUESTS OF THE FENIAN BROTHERHOOD, AT DENVER, COLORADO, JULY 4, 1868.

Ladies and Gentlemen, Fellow-citizens, each one and all: The return of Independence day brings annually together, both at home and in foreign lands, the unanimous American people.

They unite to express and to renew the fire of devotion; to burnish afresh the holy flame which illuminated our natal hour; that hour when our sacred country was born to a mission of unparalleled liberty, virtue, happiness, and glory.

We everywhere invoke heaven, as we surround the innumerable altars of patriotism, to fortify every heart and every will of our now multitudinous people; to tone and forever inspire them to perpetuate the foundations, the standard, and the work erected by the patriarchal fathers; to emulate their energetic works and virtues, plain in form, intense in fortitude, radiant with political charity and exalted wisdom.

The solemnity of this day instructs us to look abroad, with hearts softened by a great love, yet stern with resolution, over our vast country now encircled by the seas.

The august congress of 1776 is seen, filled with heroic men, the choice of an heroic people. Wisdom, resolution, calmness, unanimity, sway and moderate their deliberations and their acts.

With unfaltering faith and self-reliance in the rectitude of their intentions and their cause, they pronounce the will of the American people resolved for liberty and for independence.

In condensed sentences, perfect for logic, simplicity, truth, and eloquence, they face and expel from the American continent tyranny and oppression; they summon and appeal to the virtue and sympathy of mankind.

Their resolutions and their acts, free from doubt, are equally daring, final, and complete.

In the rancorous and prolonged conflicts of war, essential to meet and quell the implacable rage and avarice of power, was seen the same resolute will, a like impregnable endurance, an equal faith, the same unfaltering fidelity.

From this ordeal, sublime in all its acts and features, came forth a regenerated people; regenerated, because unanimously born to liberty, the menaces and blows of covetous power struck to dwarf its dimensions, to blunt its freshness, to wring subjugation from inflicted tortures, had been understood, resisted, and annihilated.

To liberty was added independence. To liberty had accrued the supreme power of self-discipline, self-protection, self-rule, self-perpetuation.

But the congress of 1776, having its origin and its authority from the unanimous will and power of the people, declared itself to be the continental congress of the American people. In their name were erected and maintained a continental army; a continental marine; a continental currency; a continental cause.

Animated by the loftiest sentiments, unsullied by the meretricious taste for power, the profoundly wise and courageous charity which declared and established the independent liberty of the individual man, decreed also that the geographical area of the continent should be dedicated and sanctified to the exercise of his freedom.

Hence, from these preliminary triumphs, in harmony with them and spontaneously, sprang with ease the union of the United States of America.

Liberty, independence, union—these were the benignant fruits gathered and perpetuated by the American revolution for the American people, and for the example of the human race forever.

From July 4, 1776, to the second election of Washington, fifteen years in time, that stupendous and benignant work had matured itself during the maturity of a single generation.

A continent cut loose and secured to a new society! A new society erected on fresh ground, novel in all its elements, even in the seed from which the plant first germinates! The oracular centre of political faith and power rescued from the huge city of London and transported beyond the ocean to the rural shores of the Potomac!

A complete and radical adjustment in the geographical foundations of human institutions was consummated.

Thought and speech were unchained, and the elasticity of mind disentangled; the daring spirit of inquiry set free from restraint; the rights of man, in practice, proclaimed and perpetuated; monarchy abolished; universal citizenship and self-government made perpetual; the artificial barriers, erected by bigotry to restrict reason and progress, disappeared, and the horizon all around was cleared to their unobstructed expansion and free vision.

From a whole people, thus disenthralled and impelled by the light and fire of universal intelligence, sprang the constitution of the United States of America.

This constitution, in itself a sublime mental structure and edifice, marks a point of culmination in the struggles and the conflicts of all preceding time.

It registers a conclusive victory of the instinct of order, achieved and recognized. It marks a point of departure into the future, new and fresh as the continent which gives it birth. Condensed in size and form, it is comprehensively complete in its details and exact in its definitions.

Consolidated wisdom shines from it, as light and fire from the sun in nature. It provides for minute municipal governments, and commands self-denial, energy, concession, uniformity, and concord.

As in our holy religion we possess the Lord's prayer, the divine text from which flow all other forms of supplication, and back into it they are again condensed, so from the profound principles fixed in the constitution, governments sound in form may erect themselves, expand to dimensions ample as the human family. They may be dwarfed or may decay, but never can finally perish or be lost.

Such is the splendid vision which arrests our attention and fills full our hearts with overpowering gratitude, when we devote this day to review the immortal acts and exalted wisdom of the people, of the statesmen, and of the soldiers of our patriarchal generation.

Let us remember that the fourth day of July, 1776, was a day of intense daring, of unparalleled sternness and resolution in its declarations and its acts.

By its antagonists it was maligned as intended to unbridle the furies and precipitate the world into infinite and devouring discord. Yet we cannot doubt, we who inherit and enjoy its benignant results and look out over a world regenerated by its oracles, that divine providence suffered their hearts to palpitate with his essence and tempered their judgments with his grace.

The life of a continental people, charged with an imperial mission, is long. Unlike human life, a pigmy in force and swiftly rushing to the grave, a vast people grows ever on, aggregating and reinvigorated by each generation of men as it appears, matures, and then departs. The life of a nation has also its extreme vicissitudes, its alternating periods of obscurity and of brightness.

The second generation of American statesmen, whether dazzled by the brilliancy of their fathers or staggered to comprehend completely the profound changes, the rapidity, and the immense volume and novelty of their works, with a certain awe of the past and recoil, dictated a time of lassitude and rest: yet this period is dimmed by the departure of the government out of harmony with the constitution and the exalted declarations of '76.

The divinity of progress seemed to sleep, African slavery was expanded, territory was dwarfed by the loss of Oregon and Texas, all things were repressed under the monopoly of the Atlantic sea.

The grand pioneer energies were arbitrarily curbed and emasculated; a meridian wall of Indians extended as a Bastile from the British northern to the Spanish southern frontier; the land system crushed agricultural labor; immigration from Europe was discouraged; a bank dwarfed and destroyed money; immense deserts, stony mountains an iron-bound sea, and death, were declared to form a fourfold and impregnable barrier to progress to the west.

A necessity to resume again the chains of semi-servitude and monarchy was proclaimed. Our immemorial continental mission, co-equal with the grand geographical area and structure between the oceans, was lost to speech.

Adhesion to rancorous political parties of the north and of the south was alone permitted. Tyranny had reëntered among us.

What dismal years of civil war; what innumerable and heroic battles; what slaughter and unfathomable griefs; what sanguinary passions, were seen! How nearly was the precipice approached whence the whole pyramid of our glories—union, independence, liberty—should be precipitated and shattered in irreparable ruin!

It is here, and upon this day, that we are admonished by pious patriotism to reflect upon the consuming acrimony, rapine, and desolation of civil war; what positive policy or what lamentable neglect has subjected our country to its destructive torch, and engendered anywhere among our people a chronic and implacable bitterness.

From hence to ponder boldly, and to see if to avoid it might have been possible, and if its recurrence may be forever averted.

As I am now here permitted upon this anniversary to speak to the pioneers, surrounded by their conquests freshly won from the wilderness, and advancing with magic celerity, so twice before it has been my fortune to be with them on significant occasions.

On the fourth of July, 1843, I was here; on this present site of Denver; one of a small, but resolute and intrepid camp. Here were Carson, Frémont, Fitzpatrick, Talbot. The American flag floated over us.

We had reached the western limit of the American territory, which then closed here in a pocket, formed by the summit of Sierra and the current of the Arkansas river.

In front, beyond the setting sun, were unknown mountains, strange rivers, mysterious lakes, condemned by the uninstructed opinion of the world and proscribed by its laws, an obscure and a foreign land.

Beyond there was an immense, silent, and unfrequented ocean; on its outward shore were hundreds of millions of Asiatic people, secluded and mysterious empires barred from the world and only known to exist.

This summer season a wagon-road was opened, and blazed through and through from the Atlantic to the Pacific sea. Our flag was baptized in the spray of the Pacific ocean. The line of way travel round the world was revealed and proclaimed.

The truth of geography triumphed over the craft of politics; the mind of the laboring and industrial world awoke, palpitated with conquering fire, and struck for the emancipation of labor, for its exaltation and its power.

The cry for Oregon and Texas arose from the people. During the years of war with Mexico, what enthusiasm animated the pioneer armies, what unparalleled marches, victories, and explorations illustrated the ardent energies of our young soldiers! How complete the preparations made by them for the advancing power and forces of the people!

Our continental area was doubled; the American desert rolled aside; the vast system of the longitudinal mountains revealed in splendor and benignity; the prodigious arena of the Pacific thrown open, appropriated to America, and occupied in force and permanence! Gold for the people was discovered and secured!

To secure results so pregnant with empire, voluntary forces of occupation gathered to the Missouri river. Assembled, to the number of five thousand, on the beautiful prairie where now stands the city of Lawrence, on the fourth of July, 1849, I was invited to address them.

Suffer me to repeat here now some sentiments then spoken: "The region of gold and precious metals and stones is not limited, but is absolutely infinite. It is over the whole extent of that primary and volcanic formation extending from the antarctic to the arctic extremities of America, including in its expanse the Andes of South and of North America, the Sierra Madre and the plateau.

"This abundance of the material of coin, wrought and developed by sober American industry, is about to be to the human race the supremest gift of divine beneficence.

"Has not the American cotton culture obliterated harsh aristocratic distinctions in dress, and thus democratized the costume of society over the world? What cotton has done for equality in dress, the same will gold effect for individual equality in property and physical comforts.

"Study how the icy servitude of European feudal times has melted since the conquests of Cortés and Pizarro opened the sources from which portable personal property has exalted itself above fixed and immutable glebe lands!" And again:

"Unquiet for this sacred union is this present time, when political power, about to cross the Alleghanies, see-saws on their crests, counting the days that precede her eternal transit over them. It is by the rapid propagation of new states, the immediate occupation of the broad platform of the continent, the aggregation of the Pacific ocean and Asiatic commerce, that inquietude will be swallowed up, and the murmurs of discontent lost in the onward sound of advancement.

"Discontent, distanced, will die out. The immense wants of the Pacific will draw off, over western outlets, the overteeming crops of the Mississippi valley. The established domestic manufactures of clothing and metals will find, in our great domestic extension, that protection which they in vain seek to create by unequal legislation, nocuous and impracticable in our present incomplete and unbalanced geographical form.

"Thus calmy weighed and liberally appreciated, does this continental railway minister to the interests, and invite the advocacy and coöperation of every section of our territory, and every citizen of our common country."

Looking out at that day from this spot, the eye ranged round for a thousand miles over a silent wilderness, unpeopled and unsought for; beyond were sluggish people and inert societies. To-day, behold around us the magic creations of the pioneer energies. Seventeen new states and eight millions of new people surround us, planted over the area of that wilderness.

What an immense geography has been revealed; what infinite hives of population and laboratories of industry have been electrified and set in motion. The great sea has rolled away its sombre veil. Asia is found and has become our neighbor. Her swarming multitudes, two thirds of the population of the world, and absorbing four fifths of the wealth and industry of mankind, assume motion and advance to meet us.

The world has faced about, and has found its true front.

North America is known to our own people. Its concave form and homogeneous structure are revealed. Our continental mission is set to its perennial frame, and the perpetuity of the American union planted symmetrically upon its impregnable foundation.

Leaving behind the dual political parties on the selvage of the Atlantic sea, we expand to the universal powers and fraternal sentiments of a continental people.

Vast geographical and social differences, strengthened by rivalry and variety, are blended, balanced, and united by permanent accord with the order of nature.

Slavery is radically abolished and exiled forever from the continents of America, Asia, and Europe. Universal citizenship, education, and intelligence create, expand, and perpetuate themselves.

The emancipated mind of the world, reinforced by numbers and new powers of self-government, marches with majesty and moderation from victory to victory.

Foreign conquests on American soil are at an end. America beholds a double human sacrifice: Maximilian for the decadence of the old world; Lincoln for the renascence of the new.

In the littleness of mortality we may yet recognize the divine miracle which closes the cycle of conquest and slavery in the world, that humanity may enter upon a new departure, illuminated by universal freedom.

A new and grand order in human affairs erects itself upon these immense concurrent disclosures and events. New powers appear, whilst old ones are condensed and made active.

Our stupendous system of longitudinal mountains and gold-bearing sierras is a majestic power. Our broad plains, immense valleys, and grand rivers, all parallel, longitudinal, arranged in compact concord, and filling full the temperate zone of warmth, are a power.

Our island form and intermediate position between the great oceans, and between western Europe and oriental Asia, are supreme powers. Our sister states and cities on the Pacific ocean are a godlike power.

The American people, having their common home in the grand amphitheatre surrounded by the mountains and the external seas, will reach the highest moral standard to which unity of language and manner, combined with the genius of liberty, intelligence, and propitious climate, can elevate empires.

The moment is at hand when the traffic and travel of mankind, twelve hundred millions in the aggregate, will condense itself to ferries on the northern seas and to transit roads.

These will be hugely multiplied in volume, and concentrated and developed here; because they have heretofore been dwarfed to nothing by the equatorial heats and the immense solitudes of the ocean circuit of the globe.

To accomplish this within a time reasonably rapid, the horded wealth of friendly Asia will be lavishly and generously bestowed.

We see united with us here to-day what Europe has most worthy to be honored and remembered, the sons and daughters of the Emerald isle, Teutonic men and women, the representatives of her other hundred states and peoples, they who have had the great faith and energy to leave her and come here, to unite themselves to us, to our country and our mission.

Free Europe flows to us and abides with us as fresh waters gather to the sea, whilst monarchy has returned to her wrapt in the mournful shroud of Maximilian. It is thus that the great powers and forces of the external world gravitate to the Mississippi basin and the mountains with irresistible pressure and celerity.

It is proper that I speak here to-day and to this audience with unreserved sincerity and candor. An exact and careful scrutiny will authorize the assertion, without fear to fail, that when the approaching centennial day of 1876 shall come, the American and Mexican people will be mutually harmonized and fused into one people.

Governments, withdrawn from the political foci of Washington and Mexico, will be condensed to the convenient and equitable geographical centre in the midst of the rural, the continental people, among the grand prairies and on the rivers of Kansas, remote from and intermediate between the oceans.

These events arrive. We are in the midst of them. They surround us as we march. They are the present secretions of the aggregate activities and energies of the people. You, the pioneers of Colorado, have arched with this glorious state the summit ridge and barrier between two hemispheres. You bring to a close the numbered ages of their isolation and their hostility. You have opened and possess the highway which alone connects, fuses, and harmonizes them together. Of this state you are the first owners and occupants. You have displayed to the vision and illustrated to mankind the splendid concave structure of our continent, and the infinite powers of its august dimensions, its fertility, its salubrious atmosphere and ever-resplendent beauty. You have discovered the profound want and necessity of human society, and your labor provides for its relief; gold, I mean; the indefinite supply of sound money for the people, by their own individual and voluntary labor. You occupy the front of the pioneer army of the people, absolutely the leaders of mankind, heading the column to the oriental shores.

The mysterious crisis between the clashing continents and civilizations of the world, held and decided three thousand years ago, by the three hundred Spartans at Thermopylæ, now rests with the geographical states and people of Colorado and Utah.

Geographical integrity is the oracle of salvation and safety. You are in danger of being partitioned by the Punic ambition of avaricious monopolies, and the covetous cities of the Atlantic sea.

No fragment of the people of the North American continent can thus suffer their geographical harmonies to be lost and perverted.

The mining pioneers of the Rocky mountains, in vice untaught, yet skilled where glory leads to arduous enterprise, are fit to confront this crisis.

Often distinguished by your favor, a witness of your constant fidelity and courage, it is my duty to sound to you this alarm, to invoke and summon you to confront this danger with Spartan, with American will, unanimity, and victory.

Our great country has emerged from trials intensely exhausting and perilous. The energy and devotion of the people have not faltered either in defeat or victory. A cry of joy and admiration sounds over all the seas and all the continents and islands. The past is impregnably preserved, future progress safe, brilliant, and assured.

> "Night wanes, the vapors round the mountains curled
> Burst into morn, and light awakes the world."

Yielding our hearts to the vivid palpitations inspired by this day, and by the gathering glories of our country, so young and yet so great, let us pronounce to her this parting salutation:

Hail to America, land of our birth; hail to her magnificent, her continental domain; hail to her generous people; hail to her victorious soldiers; hail to her matrons and her maidens; hail to the sacred union of her states; all hail to her as she is! Hail to the sublime mission which bears her on, through peace and war, to make the continent her own, and to endure forever!

V.—PIKE'S PEAK AND THE SIERRA SAN JUAN.

EXTRACTS FROM AN ADDRESS BY COLONEL WILLIAM GILPIN, DELIVERED AT KANSAS CITY, NOVEMBER 15, 1858, ON THE GOLD PRODUCTION OF AMERICA AND THE SIERRA SAN JUAN.

I submit to your inspection three maps. The first is a "Hydrographic map of North America," exhibiting in daguerreotype the physical divisions of our continent; the second is a map of the world, exhibiting America in the centre, between Asia and Europe, and having delineated upon it the isothermal zodiac of nations, filling the north temperate zone of the globe; the third is a map of the "Basin of the Mississippi."

Physical geography arranges the surface of the continents into basins and mountain crests which divide them. Thus the basin of the Mississippi is that surface which, being drained by all the confluent branches of this river, discharges its fresh waters into the gulf of Mexico.

This surface is an undulating, calcareous plain of 1,200,000 square miles of area; it is embraced entirely within the temperate zone; occupies the heart and splendors of our continent; and is the most magnificent dwelling-place marked out by God for man's abode.

Three more similar calcareous basins, each drained by a single system of rivers—the basin of the St Lawrence; the basin of the Saskatchewan of Hudson bay; and the artic basin of the Athabasca, resting upon one another and upon the basin of the Mississippi—form together one continuous expanse, geologically uniform and identical.

This immense expanse defines itself as the calcareous plain of North America. Limestone, horizontally stratified, underlies this whole expanse, being formed, like cheese from milk, from the sediment and pressure of the ocean which once rolled over it, but has now retired.

This calcareous plain, thus forming a unit in physical geography, embraces four sevenths of the area of our continent. It is encompassed all round by a circuit of primary mountains, within which it forms an amphitheatre.

These mountains are the Alleghanies, toward the Atlantic, the cordilleras of the Sierra Madre, and the Andes, toward the Pacific. The mouths of the great rivers form the doors or outlets through them to the oceans. This circumferent wall of mountains is of immense breadth toward the Pacific. It is the second unit in physical geography, and covers two sevenths of the area of our continent.

External to the mountain formation is the maritime slope, washed by the oceans and penetrated by the tides. This external division is the third unit in physical geography, and forms all round one seventh of the area of our continent.

Behold, then, the physical arrangement of our continent; at once simple, complete, and sublime: the calcareous plain, four sevenths; the mountain formation, two sevenths; the maritime slope, one seventh.

The geological structure of our continent has the same order, a like magnitude of dimensions and arrangements, a parallel simplicity. The calcareous plain is a uniform secondary formation of limestone, horizontally deposited and stratified. The mountain formation is of granite, presenting the primeval crust of the globe rent by volcanic forces and elevated vertically. The maritime slope presents the external mountain base partly revealed and partly covered by the washings of the sea.

Everybody is familiar with the manufacture of shot. This is accomplished by pouring liquid lead, at a high elevation, through perforated moulds. Each pellet of lead, descending through the air, is formed as it cools into a sphere by the invisible force of gravity. The globe of the earth has had a similar origin—once a liquid mass, now a solid, gravitating sphere, such as we inhabit it.

Geology explains how the material mass of this great sphere has arranged itself in cooling into layers, enveloping one another like the successive coatings of an onion.

Specific gravity accounts for the relative position of these layers, one upon the other, and explains to us when and how to penetrate to their metalliferous contents. It is in the primeval rocks exclusively that the precious metals and precious stones are found. The base metals are contained in the calcareous or secondary rocks. The same stupendous scale holds in the abundance of the metals, their purity, and their widely extended distribution.

It is your request that I speak specially, on this evening, of the gold production of our country, and specifically of the region surrounding Pike's peak and the Sierra San Juan.

Specific gravity guides us to discover the rocks in which the precious metals may be found, and where they are totally absent. If into a hollow pillar of glass there be poured a quart of quicksilver, one of water, one of oil, and one of alcohol, these liquids will rest one upon the other in this order. If a piece of gold, of iron, of wood, and a feather be thrown in, they will sink: the gold to the bottom, the iron to the quicksilver, the wood to the water, the feather to the oil.

If this mass be congealed to ice, this arrangement will remain solid and permanent. The gold must be sought for sedimentary to the quicksilver; the iron above it, but sedimentary to the water; the wood sedimentary to the oil. In the great order of nature, a similar arrangement holds in the rocks which compose the globe of the earth, and in their contents, once all liquid, but now permanently solid in the order of their relative specific gravities. It is the primeval mass, then, of the mountain formation, which alone is auriferous, and within it only can the precious metals, and especially gold, be sought for with success.

The mountain formation, which occupies the western portion of our continent to the extent of two sevenths of its whole area, consists of the cordillera of the Sierra Madre on the east, the cordillera of the Andes on the west, and the plateau of the table-lands embraced between them. It is uniformly primeval, and everywhere auriferous.

The plateau of the table-lands commences above Tehuantepec, where the cordillera begin to open from one another. It runs through the continent to Bering strait, and is 1,000 miles in width in our latitude (39°).

The general elevation of its surface is 6,000 feet above the sea; that of the cordillera is 12,000 feet. The plateau is traversed across by great mountain chains, which subdivide it into basins. Three of these basins contain, respectively, the great rivers the Columbia, the Colorado, and the Rio del Norte, which gorge the cordillera and escape to the seas.

Three other basins contain the stagnant lakes, the Great Salt lake, the Laguna, and the lake of the city of Mexico—these have no outlets or drainage to the seas. Of these mountain chains, the most interesting to us is the Sierra Mimbres. This divides asunder the basins of the Colorado and the Del Norte, which rest against it as a backbone.

It leaves the western flank of the cordillera of the Sierra Madre in latitude 39°, and, traversing the plateau by a due southern course for 1,400 miles, joins the cordillera of the Andes in the Mexican state of Durango in latitude 23°. This mountain chain is volcanic, containing craters and the overflow of lava. The cordillera of the Andes is also volcanic.

These mountain chains consist of the primeval rocks, broken from their original positions, heaved up edgewise by the expansive power of the internal fires of the globe, and revealed to sight and search. Moreover, the Colorado river, in escaping to the sea, gorges the cordillera of the Andes diagonally, having rent its way by a chasm bored through the very bowels of the cordillera, athwart from base to base. This chasm, 400 miles in length, is known as the cañon of the Colorado.

This cañon presents the unique and novel fact to mankind, that a primary mountain chain, whose summit is of the auriferous rocks, is thus gorged to its foundations, many thousand feet in depth. It is here, upon the plateau, in the arcana of the mountain formation, and the activity of the stupendous forges of nature, that the precious metals may be sought in mass and in position.

Moreover, the Sierra Mimbres, where its southern half bisects the Mexican states of Durango and Chihuahua, contains twenty-one mines of silver, which, wrought for three centuries by the Spaniards, have furnished the world with its silver coin and bullion. Moreover, where the Sierra Mimbres, in its course to the north, approaches to its junction with the Sierra Madre, it increases to a prodigious bulk.

It rises to the altitude of perpetual snow, and assumes for 200 miles the local name of Sierra San Juan. Here it is that the dislocation of nature by volcanic forces, and the consequent metalliferous development, attain their highest culmination.

What is about to follow the arrival of our pioneer people within this region may be exactly illustrated by what is already done within the region of the great calcareous plain.

We have seen that the calcareous plain, being formed beneath a great ocean, condensed from its filtration and by its pressure, contains only the base metals, copper, iron, lead, zinc. A metalliferous band of these metals is traced diagonally across it, traversing from southwestern Texas, through that state, through Arkansas, Missouri, Wisconsin, brushing the shores of Lake Superior and of Hudson bay, to the ocean shore opposite Greenland.

Points of culmination of these various metals are found where they reveal themselves above the general surface in mass and in position. Thus iron appears in Missouri in native purity, protruding in mountain masses over many hundred square miles of surface; the same is the form of copper adjacent to Lake Superior; so also with lead in Missouri and in Wisconsin.

Now, the same arrangement characterizes the immense primeval formation which occupies our continent from Cape Horn to Bering strait, and which is throughout impregnated with the precious metals. As gold is everywhere else found within it in the form of grains or scales, or minute lumps, so is it possible for it to culminate in mass and in position, where the auriferous rocks are upheaved to form the vertical masses of the Sierra San Juan and the Andes, and are then gorged into their bowels by the cañon of the Colorado.

The search for gold has heretofore confined itself to the external flanks of the primeval mountains, where they front the sea, and where the rivers descend from their backs. Why it has here been found only in grains, scales, and small lumps may be thus illustrated: I suppose myself at my camp-fire in the wilderness, engaged in boiling rice; into a camp-kettle of boiling water I throw a cup of rice. This rice, after a time, settles by its specific gravity into a sedimentary mass beneath the water—the water above retains a milky whiteness. This whiteness is due to the presence of minute particles of rice remaining suspended through the body of the fluid. Being frozen into ice, this condition remains fixed in solid form.

The presence of the gold in the auriferous rocks has had a similar origin, and presents identical conditions. It is the attrition of the elements upon the surface rocks and veins only that have as yet attracted attention. It is beneath that we must search for the sedimentary mass; the possibility to do which now first presents itself as we advance within the labyrinth of the volcanic masses and cañons of the plateau.

My own personal experience, earned during three military expeditions made between the years 1844–49, rendered desperate from the then unknown complication of the country, added to the numerical strength of and savage character of the Indians, is not without value.

The facts then and since gathered by me are so numerous and so positive, that I entertain an absolute conviction, derived from them, that gold in mass and in position and infinite in quantity will, within the coming three years, reveal itself to the energy of our pioneers. All the precious metals and precious stones will also reveal themselves in equal abundance in this region so propitious to their production.

Such a development has nothing in it speculative or theoretical. It comes of necessity in the order of time, and as an inevitable sequence to the planting of empire in Texas, in California, in Oregon, in Kansas, and in Utah.

As these other developments have preceded it in the order of time, and encompassed it all round, this now comes to unite, to complete, to consummate the rest, and to give form and power and splendor to the whole.

The inquiry which acquaints us with the climate, the agriculture, and the domestic geography of this immense region is still interesting and important as its metals. It was upon the summit of this plateau, where it traverses Mexico and Peru, that the semi-civilized empires of Montezuma and the Incas were found, when a sterile barbarism pervaded every other portion of the continent of America.

The distance hence to Pike's peak is less than 700 miles. It is reached by the great road of the Arkansas river, traversing straight to the west, and ascending the imperceptible grade of the great plains clear to the mountain base. Gold is here discovered as soon as the primeval rocks rise from beneath the calcareous plain.

Pike's peak, which rises to the altitude of 14,500 feet above the sea, is the abrupt colossal termination of the mountain promontory, which, protruding eastward from the cordillera 100 miles, sunders from one another the sources of the south Platte and the Arkansas rivers.

Where this promontory connects with the cordillera is a supremely grand focal point of primary mountain chains, primary rivers, and parks. This focal point is in the same latitude as San Francisco and St Louis (39°), is about 1,000 miles from each, and in the centre between them.

The direction of the cordillera is from northwest to southeast. From its western flank protrudes a promontory, balancing and similar to Pike's peak, known as Elk mountain; it sunders from one another the Grand river of the Colorado and the Eagle, terminating abruptly within the angle of their junction. Radiating due south is the Sierra Mimbres, known for 200 miles by the snowy peaks of San Juan; this chain sunders the waters of Eagle river from the Rio del Norte.

The southern arm of the cordillera sunders the waters of the Rio del Norte from the Arkansas river; the northern arm, the waters of the Platte river from the Rio Grande of the Colorado. Such is this focal summit, from which five primary mountains and five rivers simultaneously depart.

Upon the Platte is the park known as the bayou Salado; upon the Rio Grande of the Colorado, the park known as the Middle park; upon the Rio del Norte, the park called the bayou of San Luis. The Arkansas and Eagle rivers have no parks; they defile outward through stupendous cañons.

The parks, scooped out of the main dorsal mass of the cordillera by the rivers which bisect them, are each one of them an immense amphitheatre of singular beauty, fertility, and temperate atmosphere; they approach one another where they rest against the cordillera at the extreme sources of the rivers.

Behold, then, the panorama which salutes the vision of one who has surmounted this supreme focal summit of the cordillera! Infinite in variety of features; each feature intense in the magnitude and the grandeur of its mould; in front, in rear, and on either hand, nature ascending in all her elements to the standard of superlative sublimity!

Beneath, the family of parks; around, the radiating backs of the primeval mountains; the primary rivers starting to the seas; above, the ethereal canopy intensely blue, effulgent with the unclouded sun by day and stars by night; to the east, the undulating plains, expanding one hundred leagues, to dip, like the ocean, beneath the encircling horizon; to the west, the sublime plateau, checkered by volcanic peaks and mesas, channelled as a labyrinth by the profound gorges of the streams.

It is manifest with what ease the pioneers, already engaged in mining at the entrance of the bayou Salado, will, in another season, ascend through it to the cordillera, surmount its crests, and descend into the bayou San Luis. They will develop at every step gold in new and increasing abundance.

Besides, access is equally facile by the Huerfano, an affluent of the Arkansas coming down from the Spanish peak, 100 miles farther to the south. From New Mexico, the approach is by ascending the Rio Bravo del Norte. The snowy battlements of the Sierra San Juan form the western wall of the bayou San Luis. From its middle flank the Sierra San Juan projects to the southwest a chain of remarkable volcanic mountains, known as the Sierra La Plata—silver mountain. This chain divides asunder the waters of the great Colorado from the Rio San Juan, and filling the angle of their junction, forms the perpendicular wall of the Great cañon.

It is to this remarkable mountain chain, and its surrounding region, that I have desired to conduct you, and here stop in the midst of the veritable arcana of the mountain formation and its metalliferous elements.

The Sierra La Plata is 400 miles in length, having its course west-southwest. Along its dorsal crest are volcanic masses penetrating to perpetual snow; its flanks descend by immense terraces of carboniferous and sulphurous limestone. All formations of the globe here come together, mingle with one another, acquire harmony, and arrange themselves side by side in gigantic proportions.

Lava, porphyritic granite, sandstone, limestone, the precious and base metals, precious stones, salt, marble, coal, thermal and medicinal streams, fantastic mountains called cristones, or abrupt peaks, level mesas of great fertility, cañons, delicious valleys, rivers, and great forests; all these, and a thousand other varieties, find room, appear in succession, in perfect order, and in perfectly graceful proportions.

Remoteness from the sea and altitude secure to this region a tonic atmosphere, warm, cloudless, brilliant, and serene. The aboriginal people are numerous, robust, and intelligent. They are Navajos and Yuta Indians. They have skill in agriculture and weaving, rear great herds of horses, cattle, and sheep, but construct neither permanent nor temporary houses, so dry and favorable is the atmosphere.

Here, also, occurs a remarkable, isolated mountain, known to rumor for half a century, but only now locally indentified. This is Cerro di Sal (salt mountain). This rises among the western spurs of the Sierra La Plata, to an altitude of 9,000 feet, appearing as an irregular cone of great bulk. A pure stratified mass of rock-salt, its flanks are channelled by the little river Dolores, whose waters, saturated with liquid salt, yield it again in its lower course, in granulated beds of snowy whiteness, tinted with vermilion streaks from the beds of selenite with which the salt formation alternates.

Such, my fellow-citizens, are the facts and reflections which I have selected for your attention in speaking upon the gold region of Pike's peak and the Sierra San Juan. The superlative character of this region engaged the enthusiastic pen and patriotic instincts of President Jefferson, more than half a century ago.

Overshadowed during this long interval by political and military excitements, which have deflected elsewhere the progressive columns of our pioneer people, it now recurs to restore the preeminent continental character which inspired the generation who founded our republican union.

Who, and what, are these people that I now address? We are not the people of the north; we are not the people of the south; nor of the east; nor of the west. We are emphatically, and par excellence, the people of the centre. Inspirations, oracular by their source and their antiquity, admonish us to resume our distributive position, and develop the energies which assume and keep the lead.

Look upon this map of the world, upon which science delineates the zodiac of empires and the isothermal axis of progress! We have our homes around the centre of this our northern continent, the centre of our continental union, the centre of the Mississippi basin. Behold, upon the right hand, the European continent with its 260,000,000 of people; it slopes toward our eastern seaboard and faces toward the west.

Behold, upon the left hand, the continent of oriental Asia and its islands, with its population of 650,000,000; it slopes toward our western seaboard and faces to the east.

These external continents, dividing between them the population of the world, both face America and face one another across America. We occupy the middle space between them, and at once separate them assunder and connect them together. From Paris to Pekin, travelling by our threshold, is but a journey of 10,000 miles. It bisects the temperate zone, it is the line of land and way travel of mankind.

But a fact of profound significance to us, revealed by physical geography, remains to be considered. It is along the axis of the isothermal zone of the northern hemisphere that the principles of revealed civilization make the circuit of the globe. This isothermal zone deflects from the geographical zone, which is a flat section of the globe, undulating to the north and to the south, to preserve a constant identity of temperature.

Under the influence of the warm maritime climates, it rises high above the 40th degree of latitude; under the influence of the continental climates, it is depressed to the south of the 40th degree. With what the history of six thousand years practically demonstrates, the proofs of physical geography agree.

Along this axis have arisen successively the great cities of China and of India, of Babylon, Jerusalem, Athens, Rome, Paris, London, in the older continents. Upon our continent, the seaboard cities, New York, Philadelphia, and Baltimore; Pittsburg, Cincinnati, and St Louis. The channel of the Missouri is its onward track to us, whence it passes by the Kansas basins, the Sweetwater, Snake river, and the Columbia, to Vancouver's island, upon the north Pacific shore.

We, then, the people of the centre, are upon the lines of intense and intelligent energy, where civilization has its largest field, its highest developments, its inspired form. Along this line have come, from the plateau of Syria, our religion, our sciences, our civilization, our social manners, our arts and agriculture, the horse, our articles of food and raiment; and here is the eternal fire from which is rekindled, when it has expired, the spirit of the "unconquerable mind, and freedom's holy flame."

We have seen depart a perverse generation, distinguished by civic discord. An unscrupulous seaboard power has aspired to found a republic of the north; a republic of the south; a republic of the Pacific shores. A nefarious federal policy, operating for forty years, has occluded with savages and deserts the delicious central region of the prairies, the great plains, the plateau, and the mountains.

The physical geography of our country has been officially caricatured, concealed, and maligned. The solid continental republic, founded in 1776 and completed in 1787, has been nullified by interpolated monarchies.

The land system has crushed and plundered the continental people with the brutalizing pressure of mediæval feudalism.

The Indian system has walled up, as in a bastile, the whole central meridian of our continent.

Forced out artificially upon the flanks, we have seen our pioneer energies driven in fragments into Florida, into Texas, into California, into Oregon, into Minnesota. We behold on the one hand a tier of artificial seaboard states, isolated upon the maritime slope; on the other hand, the continental centre, an immense disc of howling wilderness.

Foreign wars have been waged, federal revenues and patronage exhausted, federal law and power stretched out to every device of tyranny, the federal constitution violated in every sacred principle, to erect this monarchical seaboard power, and establish it in perpetual dominance over the continent.

For the centre, civil wars, civil discords, false geography, calumnies, every form of meretricious and deceptive political agitation, have been suicidally fomented.

The foundations of the union, lost in the centre and scattered around an invisible circumference, the union itself, incessantly assailed and perpetually menanced, has seemed to approach the twilight of its existence, and, lost to the guardian care of the people, has been in suspense between the infuriated passions of extreme sectional fanatics.

Our great country demands a period of stern virtue, of holy zeal, of regenerating patriotism, of devoted citizens.

It is to the people of the great central state of Missouri that I speak. To exhalt their intrepid enthusiasm is my aim. Open the track across the plateau to the other sea, and we are absolutely the leaders of the world, heading the column to the oriental shores.

With us are the continental eagles and the continental cause, immortalized by the purity of Washington, illuminated by the wisdom of Jefferson, vindicated and restored by the illustrious Jackson.

Let us condense around these eagles and advance. It is the predestined mission of mankind confided to America to fulfil, to our generation to complete.

"Night wanes, the vapors round the mountain curled
Burst into morn, and light awakes the world."

INDEX.

A

Adams, C. F., quotation from, 284–5.
Africa, physical features, etc., 150–1; race inferiority, 153.
Agriculture, Siberian, 40, 165; Chinese, 132–3; Hungarian, 147; Russian, 149–50; United States, 155; in Colorado, 244.
Alaska, description of, 2–8; expeditions to, 16–29; Cosmopolitan railway route, 29–30; resources, 30, 66, 157; neglect of, 36; condition of natives, 161–2.
Alcock, Sir R., quotation from, 140.
Aleutian Islands, description of, 3–4.
Altai Range, direction, etc., of, 10.
Ames, O., contract, etc., of, 99.
Amoor River, Collins's expedition on the, 1856–7, 22–3; navigation, etc., of the, 113–14.
Amsterdam, commerce of, 178–9.
Anacortes, Washington, growth, etc., of, 240.
Anadir River, expedition on the, 1865, 25.
Anaheim, colony at, 272.
Andes Mountains, configuration, etc., of, 167–8, 199–201, 205, 220, 224, 316–17.
Arabia, condition, etc., of, 131.
Argentine Republic, railroads of, 104–5.
Arnold, M., quotation from, 142.
Arteaga and Cuadra, expedition of, 20.
Aryan Races, progression, etc., of the, 125–31; literature, 136.
Asia, physical features, etc., of, 172, 209–12, 297, 318–19.
Atlantic slope, physical features of the, 169–71.
Australia, railroads in, 47, 92–3.
Austria, railroads of, 46, 89.

B

Baltimore and Ohio Railroad, opening, etc., of the, 1830, 94–5.
Bancroft, H. H., quotations from, 5–8, 11–16, 54, 99–102, 158–62, 237–8.
Barentz, W., expedition of, 13.
Beketof, expedition of, 1632, 14.
Belgium, railroads in, 46, 88.
Bentinck, Lord W., letter, etc., of, 180–2.
Bering Sea, description of, 2–3.
Bering, V., expeditions of, 1727, 1740, 17–18.
Bokhara, city of, 143.
Bragin, map of, 21.
Brazil, railroads of, 105–6.
British Columbia, resources of, 157; progress, 158; society in, 158–9; native tribes, 159–60.
Bulkley, Col, expedition of, 1865–7, 23–9.
Butler, E. D., quotation from, 149.

C

California, railroads of, 98–100; railroad influence, 109–11; effect of gold discovery, 183, 299–300; commerce of, 185–6; industrial development, 234–5, 237; cities, 235–7; future of, 237–8; the labor question, 264–70; land monopoly, 271; colonies in, 273.
Canada, relations with England, 35–6; railroads, 100–2.
Canadian Pacific Railroad, connection with Cosmopolitan railway, 29; sketch of the, 100–2; advantages of the, 157–8.
Cape Colony, railroads of, 92.
Carlyle, quotation from, 259.
Carthage, commerce, etc., of, 177.
Carver, H., railroad project of, 97–8.

Central America, railroads of, 102–4.
Central Pacific Railroad, route, etc., of, 29–30; sketch of the, 98–100.
Channing, quotation from, 285–6.
Chili, railroads of, 104; labor competition of, 267–8.
China, civilization, etc., in, 50–1; railroad projects of, 53, 92; education, etc., in, 123, 129; agriculture, 132–3; pisciculture, 133; exclusiveness, 133–4; future of, 134–5; language and literature, 135–8; peculiarities, 138–9; emigration to Siberia, 165; institutions, etc., of, 209.
Civilization, effect of Cosmopolitan railway on, 48, 55–60; grades, etc., of, 48–9; Eskimo, 49; Siberian, 49–50, 54–5; Chinese, 50–1; Russian, 54.
Collins, P. McD., expedition of, 1856–7, 22–3; quotations from, 79–81, 112–14.
Columbia, railroads of, 103–4.
Colonies, Pacific slope, 272–3.
Colorado, railroads of, 100, 190; railroad influence, 108–10, 243; effect of gold discovery, 183; parcs of, 202–3, 220; physical features of, 217–26; climate, 222–5, 244; mining in, 244; agriculture, 244; springs, 245, 287; progress, etc., 245; colonies, 273; resources, etc., 286.
Colorado River, course, etc., of, 327; cañon of the, 356–7.
Columbia River, course, etc., of, 327–8.
Commerce, in Siberia, 42–4; of Vladivostok, 91; of Turkestan, 143; on Puget Sound, 239; historical sketch of, 175–80; English, 179–80, 184–6; United States, 180, 184–90; Siberian, 191; Russian, 193; security of, 195.
Confucius, works, etc, of, 136–8.
Cook, Capt, expedition of, 18–20.
Cosmopolitan railway, route, etc., of, 2, 12–15, 276–83, 327–31; practicability, 29–30, 107; United States control of, 35, 64; English control, 35–6; benefits of, 36–7, 111, 143, 147–52, 160–2, 166, 187, 190, 194–5, 243, 256, 292–4, 331; civilizing influence, 48, 55, 60; financial aspect of the, 62–4; prospective traffic, 65–7, 93, 107, 190–1; fares and freights, 66–7; effect of silver legislation, 67.
Costa Rica, railroads of, 103.
Creasy, quotation from, 130.
Cuadra, chart of voyage, 19.

D

Denmark, railroads of, 46, 90.
Denver, growth, etc., of, 110, 244–5; commerce, wealth, etc., of, 190; as a railroad centre, 190; advantages of location, 217–18, 226–7; future of, 235, 285; W. Gilpin's speech at, 1868, 345–53.
Douglas, R. K., quotation from, 135–6.
Duncan, Rev. W., Indian mission of, 160

E

Ecuador, railroads of, 104.
Egypt, railroads of, 92; peoples, etc., of, 150–1.
England, relations with Canada, 35–6; railroads in, 46, 82–7; power, etc., of, 118–19; imports of U. S. produce, 155; commerce of, 179–80, 184–6; manufactures, 179; benefits of Cosmopolitan railway to, 194; land tenure in, 259.
Eskimos, description of the, 49.
Europe, physical features, etc., of, 171–2, 204–5, 297, 318–19; emigration from, 258–64.
Evarts, W. M., quotation from, 265.

F

Figuier, quotation from, 133.
France, railroads of, 46, 87–8.
Fresno county, Cal., colonies in, 273.

G

Germany, railroads of, 46, 89; emigration from, 153–4, 259, 263–4.
Gilpin, Gov. W., speech of at Lawrence, 98, 311–41; speech to Cal. emigrants, 214–17; report to U. S. senate, 1846, 229–31; speech at Jefferson City, 301–10; at Independence, 342; at Denver, 345–53; at Kansas City, 354–63.
Glottof, expedition of, 1762–5, 18.
Gold, effect of discoveries, 179–80, 183; deposits of, 355–61.
Grand Trunk Railroad, building, etc., of the, 102.
Great Britain, see England.
Greeley, Col., colony at, 273.
Guatemala, railroads of, 103.
Gvozdef, M., chart of, 17.

H

Hanseatic League, commercial influence of the, 178.
Heceta, B., expedition of, 18.
Herodotus, quotation from, 129.
Holland, commerce of, 178–9.
Honduras, railroads of, 103.
Hood Canal, description of, 188–9.
Hungary, name, etc., 147; products and resources, 147–8; population, etc., 148; education, 148; language and literature, 148–9; national characteristics, 149.
Hunter, Dr, quotation from, 126.

I

Immigration, effect of, 250–1; character, etc., of, 250–5, 258; dangers of, 259–63, 274; German, 259; Italian, 259–60; pauper and criminal, 259–64; Irish, 260–63; Swiss, 263.
Independence, mass-meeting at, 1849, 342–4.
India, railroads in, 46, 51–2, 91–2; British power, etc., in, 118–19.
Indo-China, railroads in, 53.
Ireland, railroads of, 46, 86; emigration from, etc., 153–4, 260, 263–4.
Irkutsk, commerce, etc., of, 111–12.
Italy, railroads of, 46, 90; condition of peasantry, 259; emigration from, 259–60, 263–4.

J

Jackson, Rev S., quotation from, 161.
Japan, railroads of, 53, 92; race characteristics, 139; art in, 139–40; manners and customs, 140–1.
Japan current, course, etc., of the, 7.

K

Kamchatka, expeditions to, etc., 15–17; tribes of, 164–5; agriculture in, 165.
Kansas City, W. Gilpin's address at, 1858, 354–63.
Kansas river, geographical centre on, 280–1.
Kara, Siberia, penal settlement at, 163–4.
Khiva, city of, 143.
Koriaks, Kamchatkan tribe, condition of the, 165.
Korovin, expedition of, 1762, 18.
Krenitzin, expedition of, 18.

L

Labor question, remarks on the, 264–70.
Land, monopoly of, 271; absorption of public, 274–6; fraudulent titles, 273; alien ownership of, 275–6.
Lansdell, Dr, quotation from, 162–3.
Lawrence, Kansas, W. Gilpin's speech at, 1849, 98, 311–41.
Los Angeles, Cal., growth, etc., of, 110, 236.
Los Angeles county, colonies in, 272–3.
Lushin, F., expedition of, 16.

M

Macaulay, quotations from, 274, 291–2.
Manufactures, Siberian, 42, 247; Hungarian, 148; Russian, 150, 247; United States, 153; English, 179; of Oregon, 187; Pacific slope, 245–7; labor aspect of, 264–70.
Maps, eastern Siberia, 4; Okhotsk, 15; Gvozdef's, 17; Cuadra's voyage, 19; Cook's voyage, 20; Bragin's expedition, 21.
McCarthy, J., quotation from, 37.
McCrea, Lieut, expedition of, 1865–7, 24–5.
Mexico, railroads of, 102; war with, 301–8, 323.
Mining, in Siberia, 11; in Hungary, 147–8; in Colorado, 244.
Moges, Marquis de, quotation from, 138–9.
Mohawk & Hudson Railroad, opening, etc., of the, 1831, 95.
Monarchy, decadence, etc., of, 249.
Morris C., quotation from, 131.

N

Natal, railroads of, 92.
Nevada, mining output, etc., of, 189.
New York Central Railroad, traffic, etc., of the, 96–7.
New Zealand, railroads of, 93.
Nicaragua, railroads of, 103.
Nijni-Novgorod, wages, etc., at, 191.
North America, physical features, etc., of, 167–73, 199–226 293–9.
Northern Pacific Railroad, sketch of the, 241–2.

Norton Sound, climate, etc., of, 2, 25.
Norway, railroads of, 46, 96.

O

Okhotsk, founding, etc., of, 13-14; plan of, 15.
Oregon, commerce, resources, and wealth of, 187–8.
Oxus River, legends, etc., of the, 142.

P

Pacific slope, physical features of the, 167–9; commerce of, 185-90; pioneers of the, 214–17; resources and development of, 232–47; manufactures, 245–7; future of, 247; the labor question, 264–70; colonies on, 272–3.
Palmyra, commerce, etc., of, 177.
Panamá Railroad, sketch of the, 103–4.
Perez, J., voyage of, 1774, 18.
Peru, railroads of, 104.
Petropavlovsk, harbor, etc., of, 3.
Phœnicians, commerce of the, 176.
Pickering, Dr, quotation from, 158.
Pisciculture, Chinese, 133.
Plover Bay, description of, 3; telegraph line from, 25.
Portland, Or., wealth, etc., of, 188.
Portugal, railroads of, 90.
Posharkof, V., expedition of, 1643, 14–15.
Poussielgue, quotations from, 132–3.
Prussia, railroads of, see Germany, railroads of.
Puget Sound, commerce, etc., on, 188, 239–41.

R

Railroads, the Cosmopolitan, 2, 12, 15, 29-30, 35–7, 47–8, 55–6, 60–8, 93, 107, 111, 124, 127, 133, 143, 147–52, 160–2, 166, 175, 193, 228, 243, 256, 276–83, 292–4, 327–31; Canadian Pacific, 29-30, 100-1, 157–8; Central Pacific, 29–30, 98-100; Union Pacific, 29-30, 98–9; government control of, 31–2, 46–7, 64; Siberian-Pacific, 37–46, 52, 91; Russian, 46, 90–1; French, 46, 87–8; German, 46, 89; Belgian, 46, 88; Austrian, 46, 89; Swedish, 46, 90; Danish, 46, 90; Norwegian, 46, 90; Italian, 46, 90; British, 46, 81–7; Indian, 46, 51–2, 91–2; Australian, 47, 92–3; United States, 47, 93–101; effect, etc., of, 45–61, 106–16, 154–8, 162, 175, 182–3, 186–8, 227, 243, 252, 258, 284–5, 289; Indo-Chinese, 53; Chinese, 53, 92; Japanese, 53, 92; capital invested in, 62–3; fares and freights, 66–7; Collins's scheme, 79–81; Swiss, 89-90; Spanish, 90; Portuguese, 90; African, 92; New Zealand, 93; Baltimore & Ohio, 94; Mohawk & Hudson, 95; New York Central, 96–7; Southern Pacific, 100, 186-7, 272; Canadian, 100–2; Mexican, 102; Central American, 102–4; South American, 105–6; Northern Pacific, 241–2, 271–2; land grants, 271–2.
Riverside, colony at, 272–3.
Rocky Mountains, configuration, etc., of, 200–3.
Romanoff, D., quotation from, 68–79.
Rome, commerce, etc., of, 177.
Russia, benefit of Cosmopolitan railway to, 36–7, 150, 194, 256; progress of, 37, 54; Siberian-Pacific railroad, 37–46, 52, 91; other railroads, 46, 90-1; designs of, 51; railroad projects, 51–3; civilization in, 54; village communities, 149–50; agriculture, 149–50; manufactures, 150, 247; government policy, 150; commerce, 193; need of railroads, 194.
Russian-Pacific railroad, see Siberian-Pacific railroad.

S

Sacramento, prominence, etc., of, 235–6.
Salvador, railroads of, 103.
Samercand, city of, 143–4.
San Diego, harbor, etc., of, 236.
San Francisco, commerce of, 185–6; supremacy of, 235; progress, etc., 237–8.
Scammon, Capt, expedition of, 1865–7, 24.
Scotland, railroads of, 85–6.
Seattle, growth, etc., of, 240.
Semitic races, progression, etc., of the, 129–30.
Sherman, Gen, quotation from, 108–9.
Siberia, map of eastern, 4; description of, 8–14; Cossacks in, 11–15; explorations, 15-16; the Bulkley expedition, 1865–7, 23–8; Cosmopolitan railroad, 29-30, 162, 195; Siberian-Pacific railroad, 37–46;

52, 91; resources, 40, 65, 111-15; industries and trade, 42-4, 65-6, 111-15, 191, 247; civilization, 49-50; Siberian-Pacific telegraph, 68-79; Collins's railroad scheme, 79-81; railroad communication needed, 112-15; penal settlements, 162-4; immigration from China, 165; towns 191; wages, 191-2.
Siberian-Pacific railroad, description of, 37-46, 52.
Sierra Madre, cordillera of the, 168-70, 325-7.
Sierra Mimbres, configuration of the, 356; mines, 357.
Socialism, remarks on, 57-8.
South America, railroads of, 104-6.
Southern Pacific railroad, construction, etc., of, 100; benefits of the, 186.
Spain, railroads of, 90.
Spencer, H., quotation from, 32-3.
Steam navigation, inception, etc., of, 180-2.
Stephenson, G., railroad experiments of, 82-3.
Sweden, railroads of, 46, 90.
Switzerland, railroads of, 89-90.
Synd, Lieut, expedition of, 1764, 18.

T

Tacoma, Washington, growth, etc., of, 110.
Telegraphs, surveys, and expeditions for, 22-9; Siberian-Pacific, 68-79.
Texas, progress, etc., of, 322-3.
Timofeief, Y., expedition of, 1578, 13.
Tobolsk, founding of, 13.
Turanian races, countries of the, 141-9.
Turkestan, name, 141-2; physical features, 141-2; tribes, 142-3; commerce, 143; resources, 143; cities, 143-4; literature, 143.

U

Unalachleet River, expedition on the, 1866, 26.
Union Colony, Colorado, founding, etc., of, 273.
Union Pacific Railroad, route, etc., of, 29-30; subsidy, etc., of, 98-9.
United States, control of railroads, 31-2, 47, 64; the Cosmopolitan railway, 35, 60-5, 111, 151-2, 166, 187, 194-5, 256, 276-83, 292-4, 327-31; influence of railroads, 47, 108-11, 154-7, 182-3, 186-7; social and political problems, 57-60, 249-63; the silver question, 67-8; railroad construction, etc., in, 93-101; power, etc., of, 116-24; race characteristics, 151-3; progress and destiny, 152-4, 197-9, 211-17, 228-32, 287-300, 311-41, 346-53, 362-3; immigration, 153-4, 250-63; settled area, 154-5; products, 155; commerce, 155, 180, 184-90; physical features, 166-71, 197-226, 276-82, 293-9, 311-41, 354-62; wealth, 184-5; foreign capital in, 251; the labor question, 264-70; war with Mexico, 301-8.
Ural Mountains, direction, etc., of the, 10.
Uruguay, railroads of, 105.
Utah, commerce of, 190.

V

Venezuela, railroads of, 106.
Venice, commerce of, 178.
Victoria, British Columbia, society in, 158-9.
Vladivostok, as a railroad terminus, 91; commerce of, 91.

W

Wakerusa, see Lawrence.
Wales, condition of, 156-7.
Washington, progress and resources of, 188-9, 239-41.
Western Union Telegraph Company, the Bulkley expedition, 1865-7, 23-9.
Whitney, A., railroad project of, 98.
Whymper, F., expedition, etc., of, 22-9.
Wilkes, Commodore, description of Hood Canal, 188-9.
Wind River Mountains, effect on rainfall, 280.

Y

Yakutsk, founding of, 13-14.
Yukon River, expedition on the, 1866, 26-7.

Z

Zaikof, expedition of, 18.

send to dep't

HE 2701 .G489 C.1
The cosmopolitan railway,
Stanford University Libraries
3 6105 033 795 373

2701
G489

STANFORD UNIVERSITY LIBRARIES
STANFORD AUXILIARY LIBRARY
STANFORD, CALIFORNIA 94305-6004
(415) 723-9201
All books may be recalled after 7 days

DATE DUE

MAR 12 1999

MAR 25 1999